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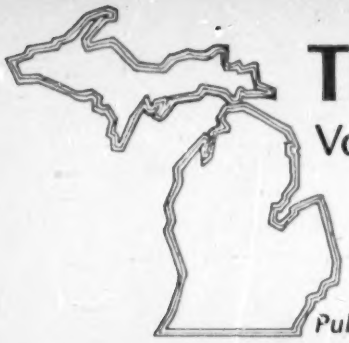

THE MICHIGAN ECONOMY

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Export Marketing in Detroit-Area Firms

by ATTILA YAPRAK, *assistant professor of marketing, School of Business Administration, Wayne State University*

Perhaps the most significant economic transformation within this century has been the internationalization of business. From modest origins at the turn of the century, the volume of world trade exploded to over $2 trillion, and foreign affiliates of U.S. firms had sales of over $500 billion by the end of 1982. As a result, the stimulation and expansion of international business activity in general, and of export marketing in particular, has become a high-priority consideration for federal, state, and local governments. For example, in the United States alone two major federal policy actions were legislated in the last six years: the creation of a national export policy by the Carter administration in 1978 and the enactment of the Export Trading Company Act of 1982 by the Reagan administration. State and local governments have also expanded their efforts recently with policy actions aimed at stimulating export growth from major metropolitan areas. These actions were clearly a function of the obvious benefits derived from international marketing involvement such as job creation, tax revenue expansion, upgrading of technical and managerial skills, greater contributions to national, state, or local incomes, and the like.

There is also evidence, however, that these governmental actions may have been spurred by the stunning findings of recent export studies. For example, according to a Dun and Bradstreet survey, out of a total of 4.4 million U.S. firms in various industries, less than 1 percent were engaged in exporting in 1982. Among these current exporters, 44 percent felt they needed more information on export marketing and regulations, with an additional 30 percent needing competitive information. Further, 20 percent of the current exporters started export operations after receiving unsolicited orders or inquiries from abroad, and 1 percent of current exporters have captured 75 percent of the entire export marketing activity of the United States.[1] Similarly, the International Trade Administration of the U.S. Department of Commerce has estimated that export production in 1983 will absorb 20 percent of the total U.S. production capacity compared to 10 percent in 1970, but only 5 percent of all U.S. manufacturers will engage in exporting this year.

The urgent need for export stimulation and expansion becomes clearer when recent global economic developments are brought into perspective. For example, comparisons of relative growth rates of national economies show that overseas markets are expanding faster than domestic markets, particularly for U.S. firms. In addition, U.S. imports have been growing exponentially (at best, paralleling U.S. exports), leading to staggering balance of trade deficits for the United States every year since the mid-1960s. Hence, U.S. firms have been facing increasing competition from foreign firms, both in their own market as well as in foreign markets. Recent trends in the auto and steel industries are but two visible examples of this phenomenon.

Current studies in international business also show that the heyday of foreign investment by U.S. firms may well be over, with foreign investment in the U.S. market exploding to conspicuous new highs. Further evidence reflects that the share of non-U.S. firms' involvement in secondary markets (e.g., Brazil) has risen rapidly in the last decade, eroding U.S. firms' dominance of these markets.[2]

Given these recent trends, the global competitiveness of U.S. firms may be enhanced over the long run by fostering export stimulation, development, and expansion. Such development could at least help maintain—perhaps even enhance—employment, revenue, and skill-upgrading opportunities in the United States as well as in progressive states.

MICHIGAN'S EXPORT DEVELOPMENT

Export expansion plays a significant role in stimulating state-wide economic development. According to the Bureau of the Census, the number of Michigan jobs related to the export of manufactured products totaled 237,000 in 1980; this figure represents 6.6 percent of total Michigan civilian employment in that year. Only three states, Rhode Island (7.5 percent), Connecticut (7.2 percent), and Washington (6.7 percent) were better than Michigan on this index of manufactured-export dependence. Michigan's index was better than the corresponding national figure of 5 percent or 4.8 million jobs.

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The Bureau's figures further reflect that between 1977 and 1980 Michigan's civilian employment related to manufactured exports increased by 19 percent compared to a 1 percent decline in total civilian employment. Clearly, Michigan has become more export dependent; without this increase in manufactured exports, the decline in employment would have been sharper.

The Bureau of the Census has also reported that Michigan ranked sixth among fifty states with $8.8 billion in direct exports and seventh with $5.4 billion in indirect exports. Further, the number of new factory jobs generated by manufactured exports was some 158,000 or 15.5 percent of all manufacturing employment in the state, ranking sixth behind California, Ohio, New York, Pennsylvania, and Illinois. Within the nonmanufacturing sector, Michigan ranked seventh with 17,000 nonmanufacturing jobs created due to manufactured exports in the state.[3]

EXPORT DEVELOPMENT AND THE CITY

Export development can also be a critical component in metropolitan economic development. As in national or state-wide considerations, export expansion may benefit a city through job creation, contributions to revenues or incomes, economically efficient utilization of excess manufacturing or technological capacity, balancing of eroding economic conditions at home with expanding sales abroad (e.g., Ford Motor Company in 1981–82), and spreading of financial risks across a wider range of products or industries. To develop policy guidelines and to manage such expansion prudently, however, policymakers need to determine the present state of the city in export potential, readiness, and infrastructure. This task involves an exhaustive review of the city's manufacturing, services, and technological export base to identify the target sectors for highest export feasibility. Within Detroit, this responsibility is charged to the Industrial and Commercial Development Division (ICDD) of the Community and Economic Development Department (CEDD).

DETROIT'S EXPORT DEVELOPMENT PROJECT

In 1983 Detroit undertook a study to collect relevant information and to design an effective program of export development and expansion for Detroit-area firms. Specifically, the following objectives were established for this study:

- to assess the small- to medium-sized Detroit-area firms' receptiveness to exporting;
- to assess the weaknesses and strengths of these firms in exporting and international business;
- to identify ways of encouraging greater involvement in exporting for these firms;
- to raise the awareness of these firms about the wide range of programs and services available for greater involvement in exporting;
- to identify the current levels of exporting awareness, involvement, markets, and regions of the world;
- to delineate the factors influencing export involvement; and,
- to generate new inducements for further export development.

To operationalize these objectives, a survey was designed. The research consisted of two phases. In the initial phase, owners or chief operating officers of a cross section of Detroit-area manufacturing firms were surveyed through a mail questionnaire. The objective of this pilot survey was to identify the general trends and characteristics of exporting by Detroit-area firms and to modify any weaknesses in the survey methodology before conducting the "real" survey in the second stage. In light of the responses to the mail survey, the questionnaire was refined to achieve better responses in a more efficient manner.

A telephone survey was conducted as the second phase of the study on those firms within industries which appeared to have the highest export potential. These industries included the chemical, petrochemical, electrical, plastics, medical, medical and dental supplies, robotics and other high-tech, automotive, and automotive supply industries. The mail survey findings should be viewed only as highlights of general directions; the results of the telephone survey should be interpreted with more weight.

THE MAIL SURVEY

Questionnaires were mailed to the chief operating officers or owners of 2,532 Detroit area manufacturing firms listed in the *Pick Directory*. By the August 1, 1983, deadline, sixty-four valid responses were received, a 2.5 percent response rate. Though mail surveys are known for low response rates, a 15-30 percent response rate is generally acceptable in this type of survey. The low response rate probably reflects the presence of methodological problems in the survey instrument or the method of data collection. As the mail survey was intended to be used as a pilot phase, however, this low response rate should not be considered detrimental.

Of the sixty-four respondents, 23 percent were in the fabricated metal products industry (SIC #34). Printing, publishing, and allied industries (SIC #27) and machinery, except electrical (SIC #35), were each represented by 13 percent of the responses. Food and kindred products had an 11 percent representation, followed by a 7 percent representation each for the chemical (SIC #28) and petroleum and refining industries (SIC #29). The remaining 26 percent of the responses came from other SIC-code industries.

A large proportion of responding firms appeared to be small- to medium-sized firms. Eighty percent had less than one hundred employees, and 71 percent had an annual sales volume of less than $5 million.

No. of employees	%	Sales volume	%
Less than 10	29	Less than $.5 million	31
10–49	42	$.5–.99 million	16
50–99	9	$1–$4.99 million	24
100–499	12	$5–$19.99 million	18
More than 500	9	More than $20 million	11

Of the sixty-four respondents, forty (60 percent) were currently exporting. Of those engaged in exporting, 78 percent had been exporting for four or more years, while the remaining 22 percent had been exporting for a shorter time. Only ten of the twenty-four nonexporters

responded to the question of interest in future exporting. Of these, seven expressed an interest in future exporting, three did not, and the remaining fourteen were assumed to be neutral. Eighty-five percent of all exporters in the sample felt well equipped to promote additional export business; 9 percent felt ill equipped, and 6 percent were neutral. Additionally, 96 percent of this group felt they had the capability to expand production facilities to satisfy additional export demand. Eighty-seven percent of these firms expressed an interest in participating in an export seminar to better cope with additional export business.

For the currently exporting firms, the problems encountered in export business varied considerably. Of the forty firms within this category, 13 percent indicated that they had problems with slow payment from foreign markets, 11 percent mentioned transportation problems, 6 percent cited poor market or economic conditions in export markets, and 5 percent cited language barriers. Only 3 percent mentioned too much red tape as a problem, and possible default of payments or lack of export marketing personnel did not appear to be a problem for any of the exporters.

Canada was by far the primary current export market for the respondents; 60 percent of the forty current exporters indicated that they were exporting to this country. Canada was followed by Mexico (20 percent of exporting firms), Japan (18 percent), the United Kingdom (15 percent), and Spain (10 percent). These firms also indicated that they were exporting to Argentina, Venezuela, Asia, Europe, and worldwide (8 percent in each case). Other countries mentioned made up an additional 37 percent, but each was selected less than 5 percent of the time.

Of the fifty-nine firms who expressed an interest in potential export markets, 81 percent indicated an interest in Canada, 64 percent in Western Europe, 61 percent in Latin America, 58 percent in the Far Eastern market, 42 percent in the Middle East, 39 percent in Africa, and 10 percent in Mexico. An additional 17 percent expressed an interest in other markets.

THE TELEPHONE SURVEY

The telephone survey sample consisted of eighty-four interviews conducted during October 1983. Of the eighty-four firms interviewed, thirty-nine were exporters and 45 nonexporters. Ninety-two percent of the exporting firms had four or more years of exporting experience, 5 percent had one to three years, and 3 percent had less than one year. Thirty-five percent of all firms in the sample were in the chemicals and allied products industry, 28 percent were in the machinery, except electrical, industry, 16 percent in the fabricated metal products industry, 5 percent in the rubber and miscellaneous plastics industry, and the remaining 16 percent were in all other SIC-code industries. These firms appeared to be small to medium sized, with 93 percent of them having fewer than one hundred employees and 72 percent having annual sales volumes of less than $5 million last year.

No. of employees	%	Sales volume	%
Less than 10	31	Less than $.5 million	22
10–49	46	$.5–$.99 million	26
50–99	13	$1–$4.99 million	24
100–499	10	$5–$19.99 million	22
More than 500	0	More than $20 million	5

Of the thirty-nine currently exporting firms, 72 percent were exporting to Canada, 39 percent were exporting to Mexico, 23 percent to West Germany, and 21 percent each to Japan and the United Kingdom. Interest in export markets was more varied, however. Of the forty-three firms (some exporters, some nonexporters) who expressed an interest, 72 percent cited Canada, 49 percent Western Europe, 40 percent Mexico, 37 percent Latin America, 30 percent the Far East, 9 percent the Middle East, 5 percent Africa, and 35 percent other areas as primary-interest export markets.

Of the 45 nonexporters in the sample, 42 percent indicated that they would be interested in exporting, and 58 percent said they would not be. These firms identified a variety of factors in explaining why they did not export. Lack of information about export marketing opportunities and perceived difficulties associated with identifying buyers or markets abroad were by far the primary factors mentioned (58 percent and 57 percent of all nonexporting firms cited these factors, respectively). Other significant barriers noted were domestic demand absorbing all of production capacity (52 percent), not much thought given to exporting (48 percent), lack of trained personnel to market overseas (33 percent), and high financial outlays (24 percent). Some other factors were also cited but did not appear to be major inhibitors: perceptions that the firm's product was not marketable overseas (22 percent); the firm could not maintain management control over exporting (21 percent); and there would be too much red tape in export marketing (19 percent). While there were a variety of still other reasons cited, each of these were identified by less than 10 percent of nonexporters; therefore, they are not specifically identified here.

Among the problems encountered by current exporters, too much red tape and slow payment appeared to be the major difficulties (45 percent and 33 percent of exporters mentioned these problems, respectively). Poor market or economic conditions abroad (24 percent), language barriers (21 percent), and transportation problems (11 percent) were also mentioned as significant drawbacks. Default of payment and lack of trained personnel for export marketing operations did not appear to be major problems; each was cited by only 6 percent of the exporters. These firms also appeared to be receptive to additional export involvement, as 84 percent felt they could expand production to satisfy additional foreign demand.

Current exporters were also questioned about how well equipped or experienced they felt they were with regard to selected exporting factors. Among the six factors investigated, the respondents felt equipped or very equipped in four categories. These were (1) financing to cover the time lag between shipping and payments (67 percent), (2) maintaining management control over export operations (61 percent), (3) ability to cover costs of initiating export activity (49 percent), and (4) avail-

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	42.1	42.2	42.4 (Aug.)
Average weekly hours, U.S.	40.2	40.3	40.3 (Aug.)
Average hourly earnings, Michigan ($)	11.47	12.25	12.21 (Aug.)
Average hourly earnings, U.S. ($)	8.78	9.17	9.14 (Aug.)
U.S. motor vehicle production (units)	856,775	826,937	784,305 (Sept.)
Electricity usage (mil. kwh.):			
Michigan	5,327	5,723	5,715 (May)
United States	158,919	174,927	175,003 (May)
Raw steel production:			
Michigan (000 net tons)	523	654	623 (Aug.)
United States (000 net tons)	7,020	7,460	6,915 (Aug.)
Consumer price index (1967 = 100)			
Detroit area	298.8	307.7	308.0 (Aug.)
United States	300.3	311.7	313.0 (Aug.)
U.S. producer price index (1967 = 100)	304.9	312.0	310.9 (Aug.)
Michigan farm prices received index (1977 = 100)	130	133	129 (Sept.)

SOURCE: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Ward's Automotive Reports; American Iron and Steel Institute; and Energy Information Administration.

Permit Authorized Construction in Selected Counties, January-August 1983-1984

(Thousands of dollars)

County	Residential		Industrial		Office		Mercantile	
	1983	1984	1983	1984	1983	1984	1983	1984
Allegan	3,929	8,012	180	10	60	96	260	70
Antrim	5,062	6,401	0	0	0	0	0	0
Berrien	5,873	5,076	39	535	2,700	922	201	475
Clinton	4,958	8,162	0	23	0	0	183	522
Emmet	3,904	4,494	0	0	0	0	0	0
Genesee	15,343	19,355	1,477	9,615	5,536	4,181	2,182	10,289
Grand Traverse	13,380	15,654	129	1,734	664	598	463	1,285
Ingham	20,780	31,138	340	983	5,138	7,788	2,037	4,234
Jackson	3,644	4,493	0	314	0	62	87	355
Kalamazoo	21,327	20,432	3,071	4,062	1,421	1,939	786	794
Kent	59,085	78,227	7,437	13,902	4,838	5,281	3,522	9,204
Livingston	10,884	14,479	15	3,612	250	255	1,284	1,130
Macomb	64,637	90,165	6,958	18,670	3,807	3,318	11,051	11,341
Midland	11,375	12,929	405	378	348	3,469	456	308
Muskegon	5,719	9,363	338	1,726	373	665	705	1,881
Oakland	159,847	215,625	9,899	63,367	89,388	84,951	7,916	20,831
Ottawa	25,930	29,126	3,024	12,749	1,971	1,019	5,171	3,754
Saginaw	4,055	4,711	190	526	1,086	571	945	707
St. Clair	9,136	7,893	212	1,097	1,498	1,710	149	453
Washtenaw	19,008	27,717	7,133	7,263	12,911	5,049	1,464	598
Wayne	68,935	95,547	37,326	41,263	5,317	36,249	12,832	14,082
Michigan	674,081	869,200	97,975	207,009	145,198	187,165	67,477	96,429

SOURCE: Bureau of the Census, special release.

ability of financing credit for buyers (48 percent). These firms, however, felt not well equipped or not equipped in two marketing-related areas: 75 percent felt not well equipped for conducting export marketing research, and 61 percent felt ill equipped to handle export marketing in general.

Current exporters also felt somewhat deficient in a wide range of functional export issues. Marketing-related considerations provide a clear example. The percent responding to the question, "How knowledgeable is your firm about the following exporting issues?" follows:

	Not knowledgeable	Neutral	Knowledgeable
Obtaining foreign contracts	69	12	19
Marketing services available	60	21	19
Antitrust implications	53	26	21
Foreign demand for products	52	24	24
Tax implications of exporting	46	34	20
Foreign marketing regulations	42	32	26
Shipping & transportation arrangements	31	19	40
Structuring transaction payments	30	22	48

When asked "Which of the following export functions would you like assistance in?" the percent responding indicated:

	Yes	No
Marketing research	79	21
Regulations and paperwork	68	32
Obtaining foreign contracts	62	38
Structuring transactions & financing	39	61
Maintain management control over exporting	36	64
Transportation arrangements	32	68
Other functions	32	68

These questions illustrate that current exporters feel relatively knowledgeable, and would therefore not request additional assistance in some "tool" exporting functions such as structuring transaction payments/financing, shipping and transportation arrangements, and maintaining management control over export operations. It is also clear, however, that they feel considerably deficient, and therefore would like more assistance, in important "operational" functions such as marketing research, obtaining foreign contracts, the antitrust and tax implications of export marketing, assessing foreign demand for products, and the management of foreign marketing regulations. These findings are corraborated with the percent of response to the question, "How familiar are you with the following services provided by government agencies?"

	Not familiar	Somewhat familiar	Very familiar
Computerized foreign buyer search services	79	16	5
Distribution search services	79	15	6
Foreign market search services	77	19	4
Foreign firm background information	77	18	5
Trade specialist counseling	72	21	7
Documentation assistance	71	24	5
Licensing and regulations assistance	71	23	6
Export mailing list services	67	23	10
Trade fairs/trade missions	53	37	10
Export marketing seminars	47	35	18

CONCLUSIONS AND RECOMMENDATIONS

Though the study sample is small for meaningful generalizations, the results of this research are encouraging. There seems to be a genuine interest in export marketing opportunities with the greatest interest in Canada. Other psychologically close areas such as Western Europe and Mexico also appear ripe for tapping. Most firms in the sample want to expand their knowledge in, and become more familiar with, the operational aspects of export marketing management as they feel relatively well equipped to handle the mechanics of international trade. Marketing-specific concerns, particularly research, appear to be the major problems faced by the sample firms. In contrast, other exporting problems do not seem insurmountable.

Based on the findings of this study, the following recommendations are in order:

1. Expand the export marketing knowledge of Detroit-area firms by conducting seminars, workshops, etc. Survey participants during these meetings for greater insight into operational problems.

2. If feasible, institute a separate export development unit within the CEDD to serve as a library of information and as a liaison between the city government or its agencies and the business community.

3. Continue research on this issue with a wider cross-section of area firms (especially new to export businesses) and a sounder method employed in information collection.

The project, now in its infancy, appears promising for future success.

REFERENCES

1. "Why Companies Don't Export," *Trade Marks* (October-November 1983), The World Trade Club of Detroit, p. 4.
2. Frauks, Lawrence, "Multinationals: The End of U.S. Dominance," *Harvard Business Review* (November-December 1977), pp. 93–101.
3. Verway, David, "Export Update," *The Michigan Economy*, Vol. 1, No. 3 (September 1982), pp. 1–2, 6.

This report was prepared through the City-University Consortium, Wayne State University, for the community economic development department of the city of Detroit. Data for this study was computed by Neva Nahan, Center for Urban Studies, Wayne State University.

Brief

The following news recently was released by the Bureau of Economic Analysis. The BEA is a statistical agency within the U.S. Department of Commerce in Washington, D.C.

Personal income increased in 44 states in the second quarter of 1984, according to the Commerce Department's Bureau of Economic Analysis. Personal income declined in North Dakota, Montana, Nebraska, Iowa, South Dakota, and Mississippi; in each of these six states, declines in farm income due to the phasing out of the payment-in-kind program were large enough to offset increases in nonfarm personal income.

In the second quarter, personal income for the nation increased 2.1 percent. Real personal income increased sharply, as consumer prices—measured by the implicit price deflator for personal consumption expenditures—increased only 0.5 percent (at a quarterly rate). The percent change in current-dollar personal income exceeded the national increase in consumer prices in all states except Arkansas and the six states in which personal income declined.

NONFARM PERSONAL INCOME

Nonfarm personal income increased in all 50 states in the second quarter. For the nation, the increase was 2.5 percent.

The five states with the largest percentage increases in nonfarm personal income in the second quarter were: Minnesota, 3.5 percent; Georgia, 3.5 percent; Florida, 3.2 percent; Vermont, 3.0 percent; and South Dakota, 2.9 percent. Most of these states had large increases in wage and salary disbursements (payrolls) in both durables and nondurables manufacturing, construction, and private service-type industries.

The five states with the smallest percentage increases in nonfarm personal income were: Delaware, 0.6 percent; Montana, 1.3 percent; Michigan, 1.4 percent; Louisiana, 1.6 percent; and Wyoming, 1.6 percent. Most of these states had payroll declines or small increases in durables manufacturing, mining, private service-type industries, and state and local government. In Delaware and Michigan, declines in durables manufacturing payrolls reflected declines in motor vehicle production.

Because farm income is subject to erratic changes, it is often preferable to use nonfarm personal income rather than total personal income to track current economic developments in regions and states. Summaries of changes in nonfarm personal income in the second quarter for each of the eight BEA regions follow. The definitions of total and nonfarm personal income follow the regional summaries.

NEW ENGLAND

Nonfarm personal income in New England increased 2.5 percent in the second quarter, the same as the increase in the nation. The increase in nonfarm personal income was more than the national average in Vermont, Connecticut, and Maine, and less than the national average in New Hampshire, Rhode Island, and Massachusetts. Increases ranged from 3.0 percent in Vermont (ranking 4th among all states) to 2.0 percent in New Hampshire (ranking 38th). In Vermont, payroll increases in durables manufacturing and construction were well above the national average. Vermont's increase in durables manufacturing payrolls was the sixth largest in the nation. In New Hampshire, payrolls declined in construction and federal government. New Hampshire's decline in construction payrolls, which was the largest in the nation, reflected the ending of construction of a nuclear power plant.

MIDEAST

Nonfarm personal income in the Mideast increased 2.4 percent in the second quarter, 0.1 percentage point less than in the nation. The increase in nonfarm personal income was less than the national average in each Mideast state except New Jersey and Pennsylvania. Increases ranged from 2.6 percent in New Jersey (ranking 16th among all states) to 0.6 percent in Delaware (ranking 50th). In New Jersey, payroll increases in nondurables manufacturing, construction, and private service-type industries were well above the national average. In Delaware, payrolls declined in both durables and nondurables manufacturing, and payroll increases in private service-type industries and state and local government were well below the national average. Delaware's decline in durables manufacturing payrolls, which was the largest in the nation, reflected a decline in motor vehicle production.

GREAT LAKES

Nonfarm personal income in the Great Lakes region increased 2.1 percent in the second quarter, 0.4 percentage point less than in the nation; this increase was the smallest among the eight BEA regions. The increase in nonfarm personal income was less than the national average in each Great Lakes state except Illinois. Increases ranged from 2.5 percent in Illinois (ranking 20th among all states) to 1.4 percent in Michigan (ranking 48th). In Illinois, payroll increases in durables manufacturing, construction, and federal government were well above the national average. In Michigan, payrolls declined in durables manufacturing and state and local government, and payroll increases in nondurables manufacturing and private service-type industries were well below the national average. Michigan's decline in state and local government payrolls was the largest in the nation. Michigan's decline in durables manufacturing payrolls, which was the fourth largest in the nation, reflected a decline in motor vehicle production.

PLAINS

Nonfarm personal income in the Plains increased 2.6 percent in the second quarter, 0.1 percentage point more than in the nation. The increase in nonfarm personal income was more than the national average in Minnesota, South Dakota, Kansas, and Nebraska, and less than the

national average in North Dakota, Iowa, and Missouri. Increases ranged from 3.5 percent in Minnesota (ranking 1st among all states) to 1.9 percent in North Dakota (ranking 43rd). In Minnesota, payroll increases in both durables and nondurables manufacturing, construction, mining, and private service-type industries were well above the national average. Minnesota's increase in construction payrolls was the fifth largest. In Louisiana, payincreases in both mining and private service-type payrolls were the third largest. In North Dakota, payrolls declined in durables manufacturing and construction, and payroll increases in nondurables manufacturing, private service-type industries, and state and local government were well below the national average. North Dakota's decline in construction payrolls was the second largest in the nation.

SOUTHEAST

Nonfarm personal income in the Southeast increased 2.6 percent in the second quarter, 0.1 percentage point more than the nation. The increase in nonfarm personal income was more than or equal to the national average in all Southeast states except Louisiana, Mississippi, Arkansas, and Kentucky. Increases ranged from 3.5 percent in Georgia (ranking 2nd among all states) to 1.6 percent in Louisiana (ranking 47th). In Georgia, payroll increases in both durables and nondurables manufacturing, construction, private service-type industries, and state and local government were well above the national average. Georgia's increase in private service-type payrolls was the largest in the nation, and its increase in construction payrolls was the fifth largest. In Louisiana, payrolls declined in nondurables manufacturing, construction, mining, and federal government, and a payroll increase in private service-type industries was well below the national average. Louisiana's decline in nondurables manufacturing payrolls was the largest in the nation.

SOUTHWEST

Nonfarm personal income in the Southwest increased 2.4 percent in the second quarter, 0.1 percentage point less than in the nation. The increase in nonfarm personal income was less than the national average in Oklahoma and Texas, and more than the national average in New Mexico and Arizona. Increases ranged from 2.8 percent in New Mexico (ranking 11th among all states) to 2.1 percent in Oklahoma (ranking 31st). In New Mexico, payroll increases in both durables and nondurables manufacturing, construction, and federal government were well above the national average. New Mexico's increase in durables manufacturing payrolls was the third largest in the nation, and its increase in construction payrolls was the fourth largest. In Oklahoma, payrolls declined in construction, and payroll increases in both durables and nondurables manufacturing, mining, and private service-type industries were well below the national average. Oklahoma's small increase in mining payrolls reflected weakness in oil and gas mining.

ROCKY MOUNTAIN

Nonfarm personal income in the Rocky Mountain region increased 2.5 percent in the second quarter, the same as the increase in the nation. The increase in nonfarm personal income was more than the national average in Colorado, equal to the national average in Utah, and less than the national average in Montana, Wyoming, and Idaho. Increases ranged from 2.9 percent in Colorado (ranking 6th among all states) to 1.3 percent in Montana (ranking 49th). In Colorado, payroll increases in both durables and nondurables manufacturing and state and local government were well above the national average. Colorado's increase in nondurables manufacturing payrolls was the second largest in the nation. In Montana, payrolls declined in durables manufacturing, construction, and federal government, and payroll increases in mining, private service-type industries, and state and local government were well below the national average. Montana's declines in both durables manufacturing and construction payrolls were the third largest in the nation.

FAR WEST

Nonfarm personal income in the Far West increased 2.7 percent in the second quarter, 0.2 percentage point more than in the nation; this increase was the largest among the eight BEA regions. The increase in nonfarm personal income was more than the national average in California, and less than the national average in Nevada, Oregon, and Washington. Increases ranged from 2.8 percent in California (ranking 10th among all states) to 1.8 percent in Nevada (ranking 44th). In California, payroll increases in both durables and nondurables manufacturing, construction, private service-type industries, and state and local government were well above the national average. In Nevada, payroll increases in construction and private service-type industries were well below the national average. Nevada's increase in private service-type payrolls, which was the third smallest in the nation, reflected weakness in the tourist industry.

DEFINITIONS

Personal income is the income received by persons from all sources, that is, from participation in production, from transfer payments from government and business, and from government interest, which is treated like a transfer payment. Personal income is the sum of private and government wage and salary disbursements, other labor income, farm and nonfarm proprietors' income, rental income of persons, personal dividend income, personal interest income, and transfer payments, less personal contributions for social insurance. Personal income is measured before the deduction of personal income taxes and other personal taxes and is reported in current dollars (no adjustment is made for price changes).

Nonfarm personal income is defined as total personal income less farm labor and proprietors' income.

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Quarterly Personal Income in Michigan

	Millions of dollars, annual rates, seasonally adjusted								Percentage change 84(1) to 84(2)	
	1982		1983				1984			
	3	4	1	2	3	4	1	2	Michigan	United States
TOTAL LABOR AND PROPRIETORS' INCOME BY PLACE OF WORK										
BY TYPE										
Wage and salary disbursements	60,259	58,980	60,807	62,013	64,046	65,526	68,323	68,651	.48	2.12
Other labor income	7,093	6,900	7,284	7,489	7,981	8,253	8,730	8,776	.53	2.88
Proprietors' income	2,374	2,724	2,871	2,882	2,981	3,091	3,534	3,464	−2.00	−3.08
Farm	215	513	438	267	262	352	621	455	−26.73	−27.42
Nonfarm	2,159	2,210	2,433	2,614	2,719	2,739	2,913	3,009	3.30	3.08
BY INDUSTRY										
Farm	495	817	763	614	629	735	1,008	846	−16.07	−19.20
Nonfarm	69,231	67,786	70,199	71,771	74,379	76,136	79,579	80,045	.59	2.26
Private	59,153	57,209	59,776	61,001	63,781	65,466	68,656	69,129	.69	2.43
Ag. Serv., For., Fish., and other	155	154	163	160	168	171	179	172	−3.91	−3.33
Mining	281	282	284	251	276	272	276	285	3.26	4.60
Construction	2,382	2,376	2,446	2,393	2,521	2,513	2,796	3,134	12.09	3.52
Manufacturing	27,088	25,080	26,780	27,313	29,280	30,490	32,430	31,926	−1.55	1.92
Nondurable goods	4,870	4,787	5,007	5,109	5,178	5,365	5,639	5,693	.96	1.40
Durable goods	22,218	20,295	21,773	22,204	24,101	25,126	26,792	26,233	−2.09	2.22
Transportation and public utilities	4,215	4,179	4,380	4,332	4,441	4,558	4,704	4,729	.53	2.34
Wholesale trade	3,790	3,712	3,767	3,976	3,975	4,062	4,256	4,390	3.15	2.59
Retail trade	6,189	6,211	6,275	6,443	6,620	6,669	6,834	6,966	1.93	2.39
Finance, insurance, and real estate	2,886	29,131	2,955	3,106	3,116	3,175	3,295	3,371	2.31	2.04
Services	12,169	12,301	12,727	13,028	13,387	13,555	13,884	14,156	1.96	2.84
Government and government enterprises	10,078	10,577	10,423	10,770	10,598	10,670	10,923	10,916	−0.06	1.38
Federal, civilian	1,361	1,388	1,377	1,425	1,442	1,450	1,471	1,478	.48	.49
Federal, military	264	275	284	293	293	298	308	308	0	.40
State and local	8,453	8,914	8,762	9,052	8,863	8,922	9,144	9,129	−0.16	1.84
DERIVATION OF PERSONAL INCOME BY PLACE OF RESIDENCE										
Total labor and proprietors' income by place of work	69,726	68,603	70,962	72,384	75,008	76,870	80,587	80,891	.38	1.81
Less: Personal contributions for social insurance by place of work	3,850	3,769	3,975	4,052	4,184	4,271	4,593	4,591	−0.04	1.66
Net labor and proprietors' income by place of work	65,876	64,834	66,987	68,332	70,824	72,599	75,994	76,300	.40	1.82
Plus: Residence adjustment	485	487	486	500	517	530	534	549	2.81	2.87
Net labor and proprietors' income by place of residence	66,361	65,321	67,473	68,833	71,341	73,129	76,528	76,849	.42	1.82
Plus: Dividends, interest, and rent	16,116	16,178	16,376	16,610	17,154	17,552	18,174	18,921	4.11	4.10
Plus: Transfer payments	16,026	17,429	17,053	17,244	16,530	16,625	16,956	17,262	1.80	1.06
State U.I. benefits	1,802	2,699	2,225	2,157	1,220	1,028	1,092	1,206	10.44	−2.76
Transfers excluding state U.I.	14,224	14,730	14,828	15,087	15,309	15,597	15,864	16,057	1.22	1.22
Personal income by place of residence	98,503	98,928	100,902	102,687	105,025	107,306	111,658	113,032	1.23	2.13

SOURCE: Bureau of Economic Analysis, special release.

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Home Values and Expectations in Michigan Counties

by ROBERT E. FISH, *graduate assistant, Bureau of Business Research, School of Business Administration, Wayne State University*

Characteristics associated with "best" housing markets include sparsely to moderately populated neighborhoods, new and efficient housing stock, topological features such as scenic hills and lakes, proximity to employment centers, a separation factor where families with equivalent high incomes tend to reside in distinct neighborhoods, and homeowners have optimistic or stable expectations. Many of these factors are interrelated. Because the supply of these houses is relatively fixed, high-income families generally acquire the homes in these most appealing markets.

Second-best markets, often located near the most appealing housing markets, are also relatively fixed in supply. This housing is sought by both middle- and low-income families. Via the bidding process, middle-income families generally acquire houses in these markets at values below those found in the most appealing housing markets.

Least appealing housing markets are also fixed in supply, and the residences are demanded primarily by low-income families. These markets are often characterized by an old housing stock and closeness to noisy industrial and commercial activity. Homeowners generally have pessimistic expectations.

The concept of expectations is an important, yet illusive, demand factor in determining house values in specific housing markets. Markets where homeowners have optimistic expectations anticipate improving economic and social conditions, markets with stable expectations anticipate stable economic and social conditions, and markets with pessimistic expectations anticipate declining economic and social conditions.

For example, suppose a major "high-tech" business decided to locate in a specific housing market. Residents' expectations would become increasingly optimistic, and housing demand would increase. Housing values would also increase in anticipation of the influx of new families, providing things such as interest rates held constant. If Henry Ford II decided to build a home in a specific market, house values in the area would rise as demand increased in anticipation of the influx of new high-income families, who wanted for social reasons to be near Mr. Ford. In contrast, if a major employer leaves an area, then housing demand will generally decline. Housing values will eventually decline as families migrate from the area in search of employment opportunities. Locating a new landfill in a housing market is another example of making a market less appealing in social terms and thus decreasing housing demand.

METHODOLOGY

This report provides a brief analysis of housing values in eighty-three distinct markets in Michigan. Each market is one of the eighty-three Michigan counties. Housing stock values associated with the counties are the median value of owner-occupied one-family houses in each county. These houses are situated on less than ten acres without a commercial establishment or medical office on the property. The data base employed in this analysis was obtained from the 1960, 1970, and 1980 censuses of population and housing.

Counties are classified as high-, middle-, or low-value counties for 1960, 1970, and 1980, essentially based on their median home values. More specifically, this system

TABLE 1: Classification of Counties Using Home-Value Ratios

Classification of county	Range of home-value ratios	Range of home values (V = home values measured in nominal dollars)		
		1960	1970	1980
Upper High-Value	1.25 and above	$V \geq \$15{,}000$	$V \geq \$21{,}875$	$V \geq \$48{,}750$
Lower High-Value	1.15 to 1.24	$\$13{,}800 \leq V < \$15{,}000$	$\$20{,}125 \leq V < \$21{,}875$	$\$44{,}850 \leq V < \$48{,}750$
Upper Middle-Value	1.05 to 1.14	$\$12{,}600 \leq V < \$13{,}800$	$\$18{,}375 \leq V < \$20{,}125$	$\$40{,}950 \leq V < \$44{,}850$
Middle Middle-Value	.95 to 1.04	$\$11{,}400 \leq V < \$12{,}600$	$\$16{,}625 \leq V < \$18{,}375$	$\$37{,}050 \leq V < \$40{,}950$
Lower Middle-Value	.85 to .94	$\$10{,}200 \leq V < \$11{,}400$	$\$14{,}875 \leq V < \$16{,}625$	$\$33{,}150 \leq V < \$37{,}050$
Upper Low-Value	.75 to .84	$\$9{,}000 \leq V < \$10{,}200$	$\$13{,}125 \leq V < \$14{,}875$	$\$29{,}250 \leq V < \$33{,}150$
Lower Low-Value	.74 and below	$V < \$9{,}000$	$V < \$13{,}125$	$V < \$29{,}250$

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.3	43.1	43.3 (Oct.)
Average weekly hours, U.S.	40.7	40.7	40.5 (Oct.)
Average hourly earnings, Michigan ($)	11.76	12.27	12.30 (Oct.)
Average hourly earnings, U.S. ($)	8.90	9.23	9.22 (Oct.)
U.S. motor vehicle production (units)	881,830	990,457	947,590 (Nov.)
Electricity usage (mil. kwh.):			
Michigan	6,478	6,328	6,559 (Aug.)
United States	208,115	203,791	208,364 (Aug.)
Raw steel production:			
Michigan (000 net tons)	609	599	582 (Nov.)
United States (000 net tons)	7,263	6,703	7,120 (Nov.)
Consumer price index (1967 = 100)			
Detroit area	299.9	311.9	308.7 (Nov.)
United States	303.1	315.3	315.3 (Nov.)
U.S. producer price index (1967 = 100)	305.6	309.4	310.4 (Nov.)
Michigan farm prices received index (1977 = 100)	138	127	124 (Dec.)

SOURCE: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Ward's Automotive Reports; American Iron and Steel Institute; and Energy Information Administration.

Permit Authorized Construction in Selected Counties, January-October 1983-1984

(Thousands of dollars)

County	Residential		Industrial		Office		Mercantile	
	1983	1984	1983	1984	1983	1984	1983	1984
Allegan	4,814	9,545	191	217	277	296	317	335
Antrim	6,175	10,079	0	164	0	0	0	0
Berrien	7,154	7,284	439	745	2,700	922	223	1,257
Clinton	6,965	9,703	35	23	0	0	217	562
Emmet	5,172	6,574	0	1,111	0	0	0	68
Genesee	19,260	28,593	2,425	9,615	7,180	6,316	5,454	14,817
Grand Traverse	16,743	18,800	347	1,816	744	1,382	470	1,472
Ingham	28,349	36,228	415	1,728	8,678	9,488	2,460	4,989
Jackson	4,987	5,886	106	409	306	62	214	645
Kalamazoo	26,007	26,412	3,453	4,283	2,546	2,608	1,306	2,226
Kent	77,547	93,580	11,401	17,501	6,798	9,114	4,843	11,133
Livingston	13,813	17,836	95	3,612	585	418	1,404	1,416
Macomb	80,419	114,614	30,191	41,269	6,374	6,196	12,873	15,987
Midland	15,068	15,332	405	378	482	3,469	476	404
Muskegon	7,557	12,141	548	1,988	373	665	720	2,332
Oakland	205,678	271,924	21,095	76,345	101,723	122,571	10,703	24,966
Ottawa	31,720	38,038	4,475	14,287	2,490	1,308	5,171	4,530
Saginaw	5,111	7,317	336	586	1,086	960	1,230	1,034
St. Clair	11,202	9,867	912	1,319	2,401	1,710	631	796
Washtenaw	26,406	34,628	7,382	10,928	13,692	10,427	1,614	598
Wayne	85,075	123,835	53,859	46,735	9,419	42,973	16,527	27,261
Michigan	862,635	1,099,728	161,969	266,366	178,995	252,188	85,687	134,233

SOURCE: Bureau of the Census, special release.

employs home-value ratio for classification purposes. This ratio is simply the median value of owner-occupied one-family houses in a specific county divided by the concurrent median value of owner-occupied one-family houses in Michigan. This negates the effect of inflation artificially raising home values in the counties and the state. Table 1 uses these rates to classify counties.

Some comments must be made on the dynamic aspect of housing stock values. Counties experience valid increases in home values in Michigan only as their home-value ratios rise over time. Counties experience valid decreases in home values in Michigan per se only as their home-value ratios fall over time.

Counties are classified on the basis of their expectations in a more complex arrangement. Counties are assigned expectations factors, which are determined as follows:

$$\frac{\text{Actual median value of owner-occupied one-unit houses in county} - \text{"Formula" median value of owner-occupied one-unit houses in county}^{1}}{\text{Actual median value of owner-occupied one-unit houses in county}} \times 100 = \text{expectations factor}$$

Based on these expectation factors, counties are then grouped within the following ranges:

Very optimistic	25% and above
Optimistic	15% to 24.9%
Stable, yet slightly optimistic	5% to 14.9%
Stable	— 5% to 4.9%
Stable, yet slightly pessimistic	—15% to —5.1%
Pessimistic	—25% to —15.1%
Very pessimistic	—25.1% and below

Residents' expectations constitute an important variable for social and economic characteristics in each county. As high-income families are attracted to appealing areas and intensify the home bidding process, counties with optimistic expectations will eventually see a rise in their median family incomes in comparison with the rest of Michigan; possbly these counties will see a further rise in median home values, again in comparison with the rest of the state. Counties with stable expectations will see their median family incomes and median home values remain relatively constant in comparison with the rest of the state. Counties with pessimistic expectations will eventually see a decline in their median family incomes, and possibly a further decline in home values, as relatively wealthier families, being more mobile, migrate from the area in search of areas with better economic and social conditions.

FINDINGS

Key economic and social events, often originating in the Detroit area, have affected home values throughout the state during the past thirty years. Always dominating Michigan's economic statistics, the automobile industry has evolved from a growth industry to a mature one. This industry shared its extraordinary profits with its employees in the form of unusually high salaries and wages. Employees in other industries in southeastern Michigan, where manufacturing and administrative operations of the major automobile companies are located, eventually also received unusually high wages due to wage "roll-out" effects emanating from the automobile industry. By 1969 and 1979 the median family income equaled $12,117 and $24,609 respectively in the Detroit Standard Metropoitan Statistical Area (SMSA). The Concurrent averages for all SMSAs in the United States were $10,474 and $21,128. In other words, Detroit was one of America's first large urban areas to generate substantial groups of both middle- and high-income families.

Soon after World War II and the succeeding expansive economic environment, middle- and high-income families began acquiring new housing in appealing areas of Macomb, Oakland, and Wayne counties. These areas had often been farmland just a few years earlier, and they afforded home buyers the opportunity to purchase housing in neighborhoods much less densely populated than those found in Detroit proper. Furthermore, the glacial belt of pleasant hills and lakes sweeping across northern Oakland and northwestern Wayne counties offered most appealing residential locations, and high-income families soon acquired new homes in these areas. This process continues today and has expanded to less populous and typologically scenic areas in St. Clair, Lapeer, Livingston, and Washtenaw counties.

TABLE 2:
Michigan Median Home Values, Home-Value Ratios, Median Family Incomes, and 1980 Expectation Factor, by County[a]

	1960 Census			1970 Census			1980 Census			
County name	1960 home value ($)	1959 family income ($)	Home-value ratio	1970 home value ($)	1969 family income ($)	Home-value ratio	1980 home value ($)	1979 family income ($)	Home-value ratio	Expectation factor
Alcona	8,200	4,167	0.68	12,400	5,842	0.71	32,500	12,301	0.83	27.62
Alger	6,600	5,028	0.55	9,400	8,014	0.54	27,500	16,354	0.71	—11.39
Allegan	9,000	5,532	0.75	12,700	9,309	0.73	36,900	20,162	0.95	— 1.11
Alpena	10,700	5,575	0.89	12,800	8,765	0.73	32,200	17,228	0.83	0.11
Antrim	6,500	4,002	0.54	11,500	8,043	0.66	35,000	16,174	0.90	13.38
Arenac	7,300	4,237	0.61	9,600	8,320	0.55	32,300	15,016	0.83	12.43
Baraga	6,800	4,287	0.57	10,200	8,045	0.58	28,800	15,598	0.74	— 1.76
Barry	8,200	5,592	0.68	12,100	9,704	0.69	33,100	20,651	0.85	—15.30
Bay	10,300	6,041	0.86	15,200	10,408	0.87	35,800	22,304	0.92	—14.70
Benzie	6,500	4,563	0.54	10,700	7,760	0.61	32,100	15,435	0.82	9.59
Berrien	11,300	6,145	0.94	15,200	10,056	0.87	33,900	19,166	0.87	— 4.90
Branch	8,600	5,449	0.72	12,000	9,325	0.69	30,200	18,535	0.77	—14.09
Calhoun	11,000	6,376	0.92	13,800	10,789	0.79	30,000	20,789	0.77	—28.03
Cass	8,500	5,418	0.71	12,200	9,781	0.70	33,300	18,548	0.85	— 3.54
Charlevoix	6,600	4,502	0.55	11,800	8,535	0.67	34,400	16,896	0.88	8.19

TABLE 2. (Continued)

County name	1960 Census: 1960 home value ($)	1960 Census: 1959 family income ($)	1960 Census: Home-value ratio	1970 Census: 1970 home value ($)	1970 Census: 1969 family income ($)	1970 Census: Home-value ratio	1980 Census: 1980 home value ($)	1980 Census: 1979 family income ($)	1980 Census: Home-value ratio	Expectation factor
Cheboygan	7,600	4,291	0.63	12,300	7,660	0.70	32,600	15,203	0.84	12.23
Chippewa	8,100	4,975	0.67	8,900	7,131	0.51	25,500	14,987	0.65	—10.72
Clare	7,400	4,400	0.62	9,900	7,547	0.57	26,300	13,231	0.67	4.35
Clinton	9,300	5,636	0.77	16,400	11,014	0.94	43,300	23,368	1.11	0.85
Crawford	7,300	4,399	0.61	12,500	7,930	0.71	31,400	14,184	0.81	14.56
Delta	9,100	5,009	0.76	11,700	8,779	0.67	33,500	17,668	0.86	1.69
Dickinson	7,800	4,770	0.65	10,200	8,316	0.58	32,000	17,094	0.82	0.22
Eaton	10,100	5,821	0.84	17,900	11,423	1.02	45,600	24,57[illegible]	1.17	1.22
Emmet	7,200	4,594	0.60	14,500	8,610	0.83	40,700	18,38[illegible]	1.04	15.99
Genesee	11,200	6,440	0.93	16,300	11,255	0.93	33,500	23,71[illegible]	0.86	—29.98
Gladwin	7,600	4,181	0.63	10,400	8,157	0.59	29,900	14,6[illegible]	0.77	7.38
Gogebic	5,900	4,287	0.49	6,300	7,236	0.36	17,400	13,6[illegible]	0.45	—49.13
Grand Traverse	9,800	5,259	0.82	16,300	9,542	0.93	45,000	19,325	1.15	20.35
Gratiot	8,000	3,218	0.67	11,400	8,891	0.65	27,200	18,3[illegible]	0.70	—25.38
Hillsdale	7,700	4,940	0.64	11,400	8,895	0.65	30,300	17,903	0.78	— 7.74
Houghton	5,000	4,260	0.42	6,400	6,300	0.37	21,400	13,398	0.55	—27.11
Huron	8,300	4,198	0.69	11,500	7,785	0.66	31,200	19,397	0.80	1.58
Ingham	12,000	6,393	1.00	17,900	11,193	1.02	39,800	24,[illegible]21	1.02	— 1.49
Ionia	7,600	5,091	0.63	11,200	9,578	0.64	31,100	19,[illegible]87	0.80	—19.26
Iosco	10,100	4,602	0.84	13,400	7,165	0.77	31,300	19,[illegible]49	0.80	17.29
Iron	8,600	5,043	0.72	7,700	7,443	0.44	23,800	14,532	0.61	—15.28
Isabella	10,200	5,206	0.85	14,500	9,207	0.83	37,500	23,318	0.96	9.13
Jackson	10,200	6,421	0.85	14,600	10,726	0.83	33,100	20,363	0.85	—19.08
Kalamazoo	12,000	6,526	1.00	16,600	11,037	0.95	40,800	25,211	1.05	— 0.25
Kalkaska	5,900	3,876	0.49	9,200	6,686	0.53	32,500	16,691	0.83	9.33
Kent	12,100	6,329	1.01	16,000	10,692	0.91	38,900	24,530	1.00	— 2.07
Keweenaw	5,000	3,952	0.42	5,000	4,809	0.29	14,400	11,705	0.37	—56.11
Lake	5,400	3,158	0.45	6,700	6,000	0.38	19,800	16,210	0.51	— 9.15
Lapeer	8,800	5,282	0.73	15,900	10,388	0.91	42,300	26,984	1.08	0.10
Leelanau	8,800	4,139	0.73	16,300	8,278	0.93	48,600	19,975	1.25	31.12
Lenawee	10,300	5,699	0.86	14,700	10,027	0.84	36,700	23,325	0.94	— 4.83
Livingston	11,200	5,775	0.93	19,700	11,551	1.13	61,000	29,339	1.56	21.08
Luce	7,200	6,254	0.60	9,100	8,974	0.52	26,000	16,327	0.67	—10.89
Mackinaw	7,500	4,721	0.63	8,700	7,273	0.50	28,400	17,985	0.73	0.59
Macomb	14,200	7,091	1.18	22,700	13,110	1.30	50,600	29,466	1.30	3.73
Manistee	7,600	5,112	0.63	11,000	8,365	0.63	30,700	17,281	0.79	— 5.07
Marquette	9,800	5,022	0.82	12,500	8,562	0.71	37,800	19,992	0.97	4.41
Mason	9,200	4,991	0.77	11,500	8,476	0.66	29,800	16,824	0.76	— 5.56
Mecosta	7,300	4,322	0.61	11,200	7,902	0.64	32,200	16,923	0.83	6.67
Menominee	8,600	4,323	0.72	10,300	7,703	0.59	29,900	16,380	0.77	— 2.60
Midland	13,400	6,627	1.12	19,000	11,618	1.09	44,900	23,598	1.15	3.49
Missaukee	6,700	3,678	0.56	9,200	6,820	0.53	28,200	13,953	0.72	6.31
Monroe	11,100	5,892	0.92	17,600	11,398	1.01	45,700	23,881	1.17	6.40
Montcalm	7,200	4,815	0.60	10,300	8,526	0.59	27,900	10,942	0.72	—13.49
Montmorency	7,300	3,574	0.61	10,100	5,851	0.58	29,200	14,995	0.75	21.27
Muskegon	9,900	6,048	0.82	12,500	9,757	0.71	27,700	15,716	0.71	—25.53
Newaygo	7,800	4,583	0.65	10,600	8,121	0.61	28,400	15,468	0.73	— 8.56
Oakland	13,900	7,576	1.16	23,200	13,826	1.33	56,300	26,803	1.44	6.82
Oceana	7,000	4,841	0.58	10,200	8,000	0.58	28,000	10,334	0.72	— 9.27
Ogemaw	6,900	3,874	0.57	11,100	6,545	0.63	27,700	16,27[illegible]	0.71	15.27
Ontonagon	6,000	4,736	0.50	9,000	8,421	0.51	20,800	15,984	0.53	—44.15
Osceola	6,500	4,350	0.54	8,800	7,961	0.50	26,200	14,937	0.67	— 7.43
Oscoda	7,700	4,442	0.64	10,100	6,411	0.58	27,400	12,922	0.70	10.17
Otsego	8,300	4,556	0.69	16,100	9,413	0.92	39,000	16,941	1.00	18.82
Ottawa	11,400	5,920	0.95	16,600	10,445	0.95	44,800	22,058	1.15	9.30
Presque Isle	9,800	5,140	0.82	12,400	7,889	0.71	31,700	15,244	0.81	9.51
Roscommon	8,300	4,477	0.69	13,100	6,895	0.75	29,000	12,474	0.74	17.83
Saginaw	11,000	5,983	0.92	16,300	10,878	0.93	36,200	22,125	0.93	—12.57
St. Clair	9,300	5,546	0.77	14,600	10,125	0.83	37,800	21,119	0.97	— 3.14
St. Joseph	9,500	5,626	0.79	12,200	9,686	0.70	32,400	18,609	0.83	— 6.75
Sanilac	7,500	4,428	0.63	11,800	8,583	0.67	31,000	16,624	0.79	— 0.34
Schoolcraft	6,800	4,438	0.57	8,700	7,692	0.50	24,700	14,670	0.63	—12.06
Shiawassee	9,300	5,740	0.77	13,800	10,540	0.79	35,100	21,737	0.90	—14.16
Tuscola	8,400	4,993	0.70	12,300	9,558	0.70	35,500	20,583	0.91	— 7.17
Van Buren	8,900	5,196	0.74	12,400	8,735	0.71	33,300	17,700	0.85	0.93
Washtenaw	15,100	6,890	1.26	23,300	12,294	1.33	60,800	25,465	1.56	23.34
Wayne	13,000	6,597	1.08	18,100	11,351	1.03	32,600	22,134	0.84	—25.05
Wexford	6,500	4,865	0.54	9,600	8,024	0.55	29,200	15,884	0.75	— 2.08
MICHIGAN	12,000	6,256	1.00	17,500	11,032	1.00	39,000	22,107	1.00	

SOURCE: U.S. Department of Commerce, Bureau of the Census. **Census of Housing, General Housing Characteristics—Michigan** and **Census of Population, General Social and Economic Characteristics—Michigan.** Washington, D.C., 1960, 1970, and 1980.
a. Median home values and median family incomes measured in nominal (no inflation adjustment) dollars.

MAP 1: 1960 Home-Value Ratios

Perhaps spurred by the successes of emergent companies in the electronics industry in Boston and San Jose, Ann Arbor recently has seen significant increases in its local economy with various growth companies and research parks leading the way. The University of Michigan served as a font of needed labor resources in this trend. As this newly generated economic wealth raised incomes of some existent families in the locale and attracted additional families in search of employment opportunities, housing demand increased in Washtenaw and Livingston counties.

As a result of the concurrent growth of the automobile industry in a period of generally rising real family incomes nationwide and the expansion of new companies in the Ann Arbor economy, increases in housing demand have raised real home values in the form of home-value ratios in Oakland, Lapeer, St. Clair, Livingston, and Washtenaw counties. In Macomb County the home-value ratio rose from 1.18 in 1960 to 1.30 in 1970; it remained constant from 1970 to 1980. These trends in housing values along with others which will be described in the analysis are presented in Table 2 and the maps. Table 2 displays the home-value ratios, median home value (owner-occupied single-structure residences), and median family incomes for each county as collected in the 1960, 1970, and 1980 censuses of population and housing. In addition, the 1980 expectations factors are shown for each county. The maps display each Michigan county's home-value ratio for 1960, 1970, and 1980 and the county's 1980 expectations factor.

Expectations for these aforementioned counties are at least stable if not better. Since it seems that the economic success of the growth companies in Ann Arbor has just been tapped, expectations are optimistic in Washtenaw and Livingston counties. Home county of many senior management employees of the automobile companies, Oakland County has stable to slightly optimistic expectations as future incomes of its current and anticipated resident families seems guaranteed to remain in the high-income category. Expectations for Macomb, Lapeer, and St. Clair counties are stable, reflecting the trend that their current and anticipated resident families will be of the middle-income category.

In contrast to its neighboring counties, Wayne County has seen its home values—in terms of home-value ratio—fall between 1960 and 1980. Although some areas of Wayne County are experiencing rising home values, the economic and social conditions of Detroit and the down-

MAP 2: 1970 Home-Value Ratios

river communities brought down the county average. These areas have extremely old housing stock which simply is unappealing to most families. Only 8.5 percent of the owner-occupied single-structure homes in Wayne County were built in the ten years prior to March 1980. In contrast, 25.6 percent and 24.9 percent of the owner-occupied single-structure homes in Oakland and Macomb counties were built in the concurrent period. Livingston, Leelanau, and Grand Traverse counties, all with optimistic expectations in 1980, had corresponding figures of 46.4 percent, 38.1 percent, and 44.8 percent.

Wayne County became very dependent on manufacturing in the early twentieth century. Recent years have witnessed these mature industries change to declining industries. Many of the firms simply went out of business. For others, industrial filtering occurred as assembly operations relocated to low-wage areas in southern states or foreign lands to allow firms to minimize costs. Because of these events, housing demand in Wayne County has weakened. As of 1980, it was anticipated that these gloomy conditions would continue, since the county had pessimistic expectations.[2]

As the automobile industry matured, the wealth created in Detroit permeated to the outstate counties. High salaries in the Detroit area created a substantial number of families with enviable savings accounts and thus the financial ability to increase their set of possible residential locations. With the retirement of their primary wage earners since 1960, many former Detroit-area families relocated to appealing housing markets in the sparsely populated, scenic, northern portion of the lower peninsula. As these families move to their new northern residences, spin-off effects occur in their new communities. Local demand for goods and services increases and even more families are attracted to these communities. Reflecting these conditions, this increased demand for housing raised home-value ratios in most counties in the northern portion of lower Michigan.

Range of home-value ratios	Number of Michigan counties in each range		
	1960	1970	1980
1.25 and above	1	3	4
1.15 to 1.24	2	0	4
1.05 to 1.14	2	2	3
.95 to 1.04	4	6	8
.85 to .94	11	10	14
.75 to .84	13	9	24
.74 and below	50	53	26

Furthermore, many of the counties have optimistic or very optimistic expectations. Thus it is assumed that these appealing economic trends will continue.

Northward migration initially centered in the northwestern portion of lower Michigan, more specifically in Grand Traverse, Leelanau, Emmet, and Otsego counties. This region is one of Michigan's most physically beauti-

MAP 3: 1980 Home-Value Ratios

Key to Maps 1–3

Number Rating	Home-value Ratio	Classification of county
1	1.25 and above	Very optimistic
2	1.15 to 1.24	Optimistic
3	1.05 to 1.14	Stable, yet slightly optimistic
4	.95 to 1.04	Stable
5	.85 to .94	Stable, yet slightly pessimistic
6	.75 to .84	Pessimistic
7	.74 and below	Very pessimistic

SOURCE: U.S. Department of Commerce, Bureau of the Census. **Census of Housing, General Housing Characteristics—Michigan** and **Census of Population, General Social and Economic Characteristics—Michigan.** Washington, D.C., 1960, 1970, and 1980.

ful. It also has a tradition of wealth, a strategic demand factor in making these counties appealing housing markets. Since the turn of the century, high-income families from Detroit and Chicago have built cottages in this area. This trend still continues as magnificent new residences are erected. The Walter Briggs residence, designed by architect William Kessler, and the Douglas House, a white villa designed by Richard Meier, were built in Harbor Springs in Emmet County during the past fifteen years.

With demand for housing increasing rapidly in the Traverse City-Harbor Springs region, particularly for appealing lakefront property, home-value ratios rose to high levels. Less financially able families began to acquire housing in nearby counties. Between 1970 and 1980, housing demand and thus home values and home-value ratios increased in Mason, Manistee, and Benzie counties, along northern Lake Michigan, and Cheboygan, Presque Isle, Alcona, and Iosco counties, along northern Lake Huron. Lakefront residences are generally the highest-valued homes in each county. It appears that the retiree families of upper-management automobile company executives are acquiring the most desirable property in upper high-value Leelanau County, lower high-value Grand Traverse County, and middle-value Antrim, Charlevoix, Emmet, and Otsego counties. Middle-management and other retiree families are acquiring desirable property in the other lakefront counties of the northern portion of lower Michigan. Linda Conklin, a real estate broker in Harrisville, Alcona County, in an interview with the author stated that many new residents in this locale are former auto-factory workers and city of Detroit policemen.[3]

Despite being generally lower low-value counties, several inland counties of northern Michigan report optimistic to very optimistic expectations in anticipation of an influx of relatively wealthier families. Eventually as housing prices rise even further in the lakefront counties, migrating families will increase their purchases of housing in the scenic and sparsely populated Oscoda, Ogemaw, Roscommon, and Missaukee counties.

Economic structural changes favoring cost-minimizing techniques in manufacturing are causing economic decline in Wayne, Genesee, Jackson, and Muskegon counties. Keweenaw, Houghton, and Ontonagon counties are witnessing the decline of their mining industries. With no strong additional economic sources of wealth present, these counties face economic uncertainty. This situation translates into counties with pessimistic or very pessimistic expectations.

NOTES

1. Formula median home values for each county (Y) are derived by a single variable regression equation with a constant for 1960, 1970, and 1980. The independent variable employed is median family income

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MAP 4: 1980 Expectation Factors

Number Rating	Expectation Factor	Expectations
1	25% and above	Very optimistic
2	15% to 24.9%	Optimistic
3	5% to 14.9%	Stable, yet slightly optimistic
4	— 5% to 4.9%	Stable
5	—15% to —5.1%	Stable, yet slightly pessimistic
6	—25% to —15.1%	Pessimistic
7	—25.1% and below	Very pessimistic

in each county (X). Each equation was based on observations of the eighty-three counties. The regression equations employed are as follows:

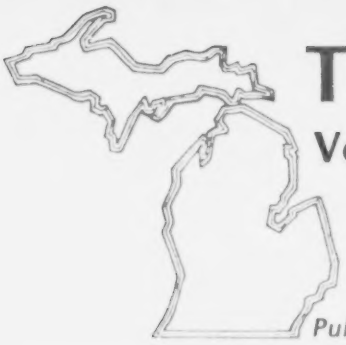
Year	Equation	Coefficient of correlation
1960	$Y = -2173.9 + 2.1433X$	.77
1970	$Y = -3591.8 + 1.8297X$	.75
1980	$Y = 1956.4 + 1.7534X$	.64

The coefficient of correlation states that percentage of variation in estimated home value for a county is caused by variation in median family income for the county. In other words, it is a measure of the degree of statistical relationship between home values and income.

Much of the data in this article was computed by Richard J. Meltzer of the Bureau of Business Research. The author expresses many thanks for his efforts.

2. See "Detroit: Suburbs and City" in the September-October 1983 issue of *The Michigan Economy*. It offers a more detailed look at economic conditions in the Detroit area.
3. There are no studies available to substantiate this. It seems to be the intuitive feeling of many real estate brokers.

MICO-2



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Update on Hispanic Michigan

by DAVID I. VERWAY, *director, Bureau of Business Research, School of Business Administration, Wayne State University*

In Mexico, *Cinco de Mayo* is a day of fiesta. It commemorates the military victory which deposed the emperor Maximilian. The fifth of May also is marked by festivities in Adrian, Detroit, Holland, Saginaw, and other cities in Michigan where Mexican traditions are preserved. Restaurants and grocery stores which deal in Mexican specialties are located in these cities. Spanish-language news broadcasts and cultural programs are included in local radio and television programming. Michigan's Hispanic community also has its own newspaper, *El Renacimiento,* published in Lansing.

Many Hispanic Michiganians are descended from *braceros* who arrived from Texas or immigrated from Mexico. The bracero program was established during World War I to enable employers to recruit Mexican labor. The largest migration occurred during the 1920s; in 1930 nearly 10,000 of Michigan's foreign born gave Mexico as their country of birth. Most of these people lived in Detroit.[1]

In the Census of Population, source of most data pertaining to Michigan's Latinos, persons are classified as being of Spanish origin if they claim Mexican, Mexican-American, Chicano, Puerto Rican, Cuban, or other Spanish or Hispanic descent. In the 1980 census, 157,626 people, 1.7 percent of the state's total population, are so classified. Two-thirds of these people are of Mexican, Mexican-American, or Chicano descent. Over 12,000 are of Puerto Rican origin or descent, 3,600 Cuban, and 34,100 "other" Spanish. Racially, 55 percent of these people are white, 5 percent black, 1 percent American Indian, 1 percent Asian, and the rest "other."

Slightly more than half of Michigan's Latinos were born in this state, compared with nearly three-quarters native in the rest of the Wolverine State. Nearly a fifth of Michigan's Latinos were born in the South, evidence of strong family ties in San Antonio, Fort Worth, and other Texas cities.

The most recent Census of Population was conducted in April 1980, a month during which farm employment is relatively low. Migrant harvest workers from out of state are excluded from the Michigan data. Mechanization on the farm caused the summer flow of harvest workers to slow to a trickle. As the data which follow will show, Michigan Latinos' attachment to agriculture is minimal.

DEMOGRAPHICS

To enjoy their culture and, perhaps, because of economic and other social realities, members of the Hispanic community have tended to cluster. Detroit's largest Mexican-American colony, also the largest and oldest in the state, is centered west of the business and commercial core of the city.

> To a greater degree than anywhere else in the state, migrants from Mexico settled in Detroit. They had more reasons to be attracted in the city than Tejanos [Texans], who were largely dropouts from the migrant stream, and who settled in all parts of the state, in the countryside, the small towns, and the large cities. For one, the Detroit colonia offered work opportunities as well as stores, shops, restaurants, and social activities that could not be found in other places. Mexicanos could find work, the company of friends and relatives, and familiar cultural patterns without immediately having to gain command of the English language and foreign ways. Tejano migrants, especially those from El Valle, were more accustomed to the ways of rural and small-town life in the United States. While many Tejanos spoke little or no English and had little contact with Anglos in their home state, they could more easily get by in the rural areas of Michigan where few Mexicano settlers had preceded them. A second reason for the differences was historical. The Detroit colonia was first settled by Mexicanos from Mexico. Later migrants into the city were often friends, relatives, and residents of the same communities in Mexico that provided that city its first Mexicano residents. The Tejanos' earliest experiences were in the smaller cities and towns, where many of them eventually settled. In both cases, established patterns tended to create a more Mexico-oriented ambience in Detroit, and a more Tejano atmosphere in other parts of the state.[2]

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.8	41.7	44.4 (Dec.)
Average weekly hours, U.S.	41.2	40.7	41.2 (Dec.)
Average hourly earnings, Michigan ($)	11.98	12.48	12.71 (Dec.)
Average hourly earnings, U.S. ($)	9.04	9.30	9.38 (Dec.)
U.S. motor vehicle production (units)	927,882	765,374	1,042,761 (Jan.)
Electricity usage (mil. kwh.):			
Michigan	5,721	5,903	5,738 (Nov.)
United States	170,474	181,702	183,203 (Nov.)
Raw steel production:			
Michigan (000 net tons)	615	604	574 (Jan.)
United States (000 net tons)	7,970	6,013	6,984 (Jan.)
Consumer price index (1967 = 100)			
Detroit area	301.3	309.1	310.9 (Jan.)
United States	305.2	315.5	316.1 (Jan.)
U.S. producer price index (1967 = 100)	308.1	309.9	309.8 (Jan.)
Michigan farm prices received index (1977 = 100)	140	121	122 (Jan.)

SOURCE: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Ward's Automotive Reports; American Iron and Steel Institute; and Energy Information Administration.

Permit Authorized Construction in Selected Counties, Cumulative 1983 and Preliminary 1984

(Thousands of dollars)

County	Residential		Industrial		Office		Mercantile	
	1983	1984	1983	1984	1983	1984	1983	1984
Allegan	11,094	10,331	775	217	587	867	670	335
Antrim	8,594	12,745	350	164	0	0	0	0
Berrien	11,671	99,441	1,210	839	3,750	922	532	1,757
Clinton	7,529	11,004	117	23	275	0	357	562
Emmet	6,398	7,621	380	1,111	0	0	39	68
Genesee	26,543	30,782	4,116	14,901	8,202	7,227	6,969	17,531
Grand Traverse	19,637	24,373	489	2,524	768	1,732	832	2,139
Ingham	32,591	41,695	499	3,078	9,757	11,987	4,594	5,305
Kalamazoo	30,514	29,580	3,954	7,506	3,908	3,592	3,073	2,858
Kent	86,670	109,234	12,330	22,538	8,676	10,431	7,029	12,706
Livingston	15,654	20,500	1,354	3,612	1,614	870	1,487	2,142
Macomb	93,291	129,925	36,993	48,884	7,351	6,760	14,415	25,184
Midland	18,512	19,134	608	539	482	3,534	781	638
Muskegon	10,297	14,168	954	2,335	633	1,070	830	3,309
Oakland	235,546	329,410	27,176	85,443	115,631	173,639	13,880	28,140
Ottawa	34,935	46,188	6,872	15,176	2,544	1,468	5,440	4,674
Saginaw	8,239	7,466	959	759	1,318	1,304	2,628	1,233
St. Clair	12,605	11,861	962	1,415	2,401	1,805	756	1,117
Washtenaw	29,355	38,649	7,436	18,201	14,950	12,471	1,789	1,248
Wayne	82,450	139,828	19,188	50,782	10,783	50,219	21,482	32,438
MICHIGAN	1,015,935	1,269,750	158,185	314,385	209,547	324,400	117,248	163,814

SOURCE: Bureau of the Census, special release.

Lansing's Mexican-American population is located in an area north of the Capitol known as Old Town and in the southwestern part of the city. Most of these citizens trace their origins to South Texas.

> Largely dropouts from the migrant stream, they accepted work in a wide range of unskilled occupations, not only in industry, but also in service and agriculture. Their first important *colonia*, which began to form in the late 1930s, was located on the north side of the city. In the 1950s and 1960s, other population clusters developed in the Town Gardens and the South Logan-Maple Grove areas of the city.[3]

Saginaw has the state's third largest Mexican-American community.

> Saginaw, "the Bean Capital of the Nation," was the oldest Mexicano settlement outside of Detroit and soon could boast of a higher proportion of Chicanos than any other city in the state. It was the major city in a region noted for its production of beans, sugar beets, and pickles, and attracted thousands of migrant stream dropouts who entered the factories, particularly the General Motors plants. The first significant cluster of Mexicano families began to arrive in the city around 1920, and settled in the poor, northeast part of the city, around the St. Joseph parish. After 1938, thousands of Tejanos began to arrive in the region, and many of them settled out in Saginaw. Soon a second cluster of Mexicanos could be found in the south, in old South Saginaw, another working-class district. Perhaps because of the relatively dense population concentration, the Chicanos of Saginaw formed a distinctly identifiable group long before they did in most other parts of the state.[4]

Grand Rapids, Pontiac, Flint, Holland, and Adrian also have Mexican-American populations that are greater than 2,000. In all, 43 percent of the Mexican-American ethnic group lives in these eight cities.

People of Puerto Rican heritage have concentrated in Detroit, Grand Rapids, and Pontiac. Michigan cities with fewer than 1,000 but more than 100 of this ethnic group are Adrian, Lansing, and Ann Arbor. Oronoko Township in Berrien County has 174 Puerto Ricans. Over two-thirds of the state's Puerto Ricans live in these seven places. Prior to the 1950s, Puerto Rican migration to the rest of the United States was insignificant.[5]

With 410, Detroit has the most Cubans. Other cities with 100 or more are Lansing, Grand Rapids, Wyoming, Ann Arbor, and Sterling Heights. These six cities are home to 37 percent of our residents of Cuban heritage.

> The mass migration of Cubans to the U.S. happened in the 1960s when Fidel Castro took over the island after the Cuban Revolution, and again in 1980 when a second wave of Cuban political refugees were permitted entry to the U.S. A new group of political immigrants coming to the United States are those fleeing the unrest in Central America, but they seem to be concentrated in New York City and on the West Coast.[6]

"Other" Spanish peoples number more than 1,000 in Detroit (4,789) and Lansing (1,011). There are between 200 and 1,000 in this category in Adrian (231), Ann Arbor (954), Berkley (265), Dearborn (570), East Lansing (592), Flint (589), Grand Rapids (947), Holland (358), Inkster (218), Kalamazoo (468), Lincoln Park (229), Livonia (309), Pontiac (345), Royal Oak (221), Saginaw (606), St. Clair Shores (265), Sterling Heights (367), Taylor (604), Troy (350), Warren (777), and Westland (479).

Each of the Spanish-heritage ethnic groups is more heavily urbanized than the rest of the state's population. Those with Mexican and Puerto Rican links have relatively large concentrations in the older central cities, whereas Cubans and "other" Spanish are less concentrated, prefer suburban living, and are more prone to assimilate with the Anglo population.

The youthfulness of the Mexican-American and Puerto Rican populations is evident in the figures in Table 1. Selective migration probably is an important factor. Young people have been drawn here by economic prospects whereas retirees return "home" for their senior years.

TABLE 1. Age Distribution of Michigan Persons—Spanish Origin and Total Population: Census 1980

Age group	Mexican[a]	Puerto Rican	Cuban	Other Spanish	Total[b]
	(In percentages)				
Under 5	12.5	13.6	7.1	10.4	7.4
5-19	36.6	35.3	27.6	32.1	26.2
20-29	19.6	20.8	22.0	18.9	18.3
30-44	16.0	18.5	17.5	19.2	18.8
45-64	12.0	10.2	20.3	13.7	19.4
65 or older	3.5	1.5	5.5	5.7	9.8

SOURCE Developed from the Bureau of the Census, **1980 Census of Population, General Social and Economic Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-C24, Table 99.

a. Mexican, Mexican-American, and Chicano.
b. All Michiganians, including those of Spanish origin.

Census of Population figures also show that, except among those of Cuban origin, Hispanic women have a higher fertility rate than non-Hispanics, and their families are larger on the average. A higher proportion of Latino families have young children; however, except for Cubans, a lower proportion are headed by married couples. In other words, in this state Cubans exhibit greater family stability and Mexican-Americans, Puerto Ricans, and "other" Spanish less family stability than the rest of the population.

Among Mexicans, Mexican-Americans, Chicanos, and Puerto Ricans, the rate of school and college attendance is below that of the rest of the population. This, and possibly selective migration, has meant that the level of educational attainment among both men and women in these ethnic groups is below that for the rest of the Michigan population. Among Cubans and "other" Spanish, educational attainment is above average.

EMPLOYMENT AND OCCUPATION

Unemployment rates are higher than the Michigan average among Hispanic men and women. This is true

for each of the ethnic subgroups within the broader Latino designation. Except for Cubans, Latinos are more likely to work intermittently and at part-time jobs than their counterparts in the rest of the state. Those of Cuban origin stand out as having an exceptionally high proportion of families in which both parents are employed outside the home.

Among Michigan men of Cuban and of "other" Spanish heritage, an exceptionally high proportion have top-paying managerial and professional occupations. In fact,

TABLE 2. Occupational Distribution of Employed Michigan Persons, Spanish Origin and Total Population, by Sex: Census 1980

Male occupational grouping	Mexican[a]	Puerto Rican	Cuban	Other Spanish	Total[b]
	(In percentages)				
Managerial and professional specialty occupations					
Engineers	.7	1.5	4.2	3.3	2.8
Physicians	.4	1.2	4.8	4.4	.7
Other health assessment and treating occupations	.2	1.2	1.7	.6	.4
Teachers, librarians, and counselors	1.0	1.8	5.0	3.4	3.0
Other professional specialty occupations	1.9	3.6	3.5	4.0	4.3
Executives, administrators and managerial occupations	3.9	4.7	7.9	10.3	11.2
TOTAL	8.0	14.0	27.0	26.0	22.4
Technical, sales, and administrative support occupations					
Health technologists and technicians	.4	0	.0	.5	.3
Other technologists and technicians	1.7	1.3	1.8	2.6	2.5
Sales occupations	3.3	4.2	10.6	7.4	8.2
Clerical and other administrative support occupations	6.1	5.6	8.3	5.0	6.3
TOTAL	11.5	11.1	20.6	15.5	17.3
Service occupations					
Protective service	2.0	1.8	1.2	2.6	2.2
Food service	3.4	6.5	2.0	3.8	2.6
Cleaning and building service	5.8	3.8	5.9	4.1	3.6
Other service occupations	1.3	.9	.6	1.4	.9
TOTAL	12.6	13.0	9.6	11.9	9.3
Farming, forestry, and fishing occupations					
TOTAL	2.9	4.8	0	1.7	2.4
Precision production, craft, and repair occupations					
Mechanics and repairs	7.7	6.8	4.6	5.8	7.1
Construction trades	4.6	1.8	5.3	5.2	5.9
Precision production occupations	6.4	5.2	4.8	7.0	8.2
TOTAL	18.7	13.8	14.8	18.0	21.3
Operators, fabricators, and laborers					
Machine operators and tenders, nonprecision	15.4	13.5	8.7	9.3	9.0
Fabricators, assemblers, inspectors, and samplers	14.3	16.7	12.0	7.4	6.4
Motor vehicle operators	3.8	2.5	3.2	3.1	4.3
Other transportation occupations	.3	0	0	.1	.3
Material-moving equipment operators	3.9	2.4	1.6	1.6	2.1
Construction laborers	1.0	.1	.6	.3	.6
Freight, stock, and material handlers	2.4	2.3	.6	2.0	1.9
Equipment cleaners and helpers	5.0	5.7	1.2	3.1	2.7
TOTAL	46.2	43.2	28.0	26.9	27.4
Female occupational grouping					
Managerial and professional specialty occupations					
Engineers	0	0	0	.3	.2
Physicians	0	.4	.9	1.0	.2
Other health assessment and treating occupations	1.4	4.2	2.3	5.9	3.5
Teachers, librarians, and counselors	4.0	4.8	10.1	6.2	7.2
Other professional specialty occupations	2.4	2.9	4.1	2.7	2.6
Executives, administrators and managerial occupations	4.3	4.1	2.1	4.1	6.4
TOTAL	12.1	16.4	19.5	20.2	20.1
Technical, sales, and administrative support occupations					
Health technologists and technicians	1.1	2.7	1.6	3.1	2.3
Other technologists and technicians	.7	1.4	2.9	1.9	.9
Sales occupations	10.0	5.9	6.9	11.0	11.5
Clerical and other administrative support occupations	27.7	29.3	28.2	25.7	31.0
TOTAL	39.5	39.3	39.6	41.7	45.7

TABLE 2. (Continued)

	Mexican[a]	Puerto Rican	Cuban	Other Spanish	Total[b]
Service occupations					
Domestics	1.6	.9	0	.3	1.1
Protective service	.2	.4	.9	.8	.5
Food service	9.5	9.4	4.1	8.4	8.6
Cleaning and building service	5.5	3.4	2.7	3.5	2.6
Other service occupations	9.1	10.9	6.8	8.2	7.6
TOTAL	25.9	25.0	14.5	21.2	20.4
Farming, forestry, and fishing occupations					
TOTAL	1.8	.4	.6	.6	.7
Precision production, craft, and repair occupations					
TOTAL	1.7	1.5	2.5	1.4	1.9
Operators, fabricators, and laborers					
Machine operators and tenders, nonprecision	8.5	5.9	11.3	7.3	4.5
Fabricators, assemblers, inspectors, and samplers	6.4	6.9	10.0	4.3	3.8
Motor vehicle operators	.5	.1	0	.7	1.0
Material-moving equipment operators	.5	.1	.9	.2	.1
Construction laborers	.1	0	0	.1	0
Freight, stock, and material handlers	.6	1.2	0	.3	.5
Equipment cleaners and helpers	2.4	3.4	1.2	2.0	1.3
TOTAL	19.1	17.7	23.3	14.8	11.3

SOURCE: Developed from Bureau of the Census, **1980 Census of Population, General Social and Economic Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-C24, Table 102.

a. Mexican, Mexican-American, and Chicano.
b. All Michiganians, including those of Spanish origin.

5 percent of Michigan men of Cuban origin are employed as physicians (Table 2) and at exceptionally high-paying salaries (Table 3). Less than 1 percent of all Michigan men are physicians, and they work for earnings that average 18 percent below those of the Latinos. Within the Cuban group in this state, none was classified in agricultural occupations, and few were found in low-paying services.

Among Mexican-Americans and less so among Puerto Ricans, both men and women tend to eschew managerial and professional occupations. Low levels of educational attainment are barriers to entry into these occupations. These two groups exhibit a predilection to marry young, have large families, and work at lesser-skilled, lower-paying occupations. No doubt a long history of job discrimination has contributed to the low level of occupational attainment among Michigan's Mexican-Americans.

INCOME AND POVERTY

Statistics on earnings by occupation are not available for the separate ethnic groups within the broader Spanish-origin category. The figures that are available, along

TABLE 3. Median Age and Earnings of Michigan Men Who Worked Year-Round, Full-Time, Total and of Spanish Origin: Census 1980

Occupation groups and selected occupations	Spanish origin		Total	
	Earnings[a]	Median age[b]	Earnings[a]	Median age[b]
Salaried managers, manufacturing	$31,595	43.8	$32,771	44.4
Accountants and auditors	20,644	33.8	23,440	35.1
All executive, administrative, and managerial occupations	21,863	35.1	25,133	40.6
Mechanical engineers	30,024	34.1	30,571	40.0
All engineers	28,082	35.3	28,165	39.1
Physicians	68,379	41.8	55,866	41.4
Teachers, librarians, and counselors	21,831	35.7	20,678	37.0
Writers, artists, entertainers, and athletes	18,906	33.4	21,551	34.4
All professional specialty occupations	25,652	35.6	24,851	37.4
All managerial and professional specialty occupations	23,712	35.4	25,019	39.0
Engineering and science technicians	20,521	28.7	21,354	33.1
Drafting and surveying	21,899	26.3	20,764	30.8
All technicians and related support occupations	20,188	30.7	20,776	32.3
Sales representatives, finance and business services	20,000	31.3	21,703	41.4
Sales workers, retail and personal services	15,584	23.1	16,065	29.0
All sales occupations	17,680	28.9	19,635	36.7

TABLE 3. (Continued)

Occupation groups and selected occupations	Spanish origin		Total	
	Earnings[a]	Median age[b]	Earnings[a]	Median age[b]
Supervisors, administrative support occupations	23,704	36.0	23,182	40.6
Mail and message distribution occupations	17,102	29.4	17,378	41.1
Traffic, shipping, stock, and inventory clerks	16,715	32.2	16,922	33.6
All administrative support occupations	17,912	29.6	19,073	35.6
All technical, sales, and administrative support occupations	18,180	29.6	19,670	35.3
Police and detectives, public service	20,724	29.4	21,531	33.9
Guards	15,867	28.3	16,963	38.3
Cooks	8,333	19.9	9,308	19.1
Nursing aides, orderlies, and attendants	13,022	26.5	12,442	27.9
Cleaning and building service occupations	13,029	34.2	13,550	34.2
Barbers, hairdressers, and cosmetologists	15,473	34.4	13,428	42.1
All service occupations	13,743	28.3	15,387	29.1
All farming, forestry, and fishing occupations	8,850	27.5	10,662	35.8
Automobile mechanics and body repairers	16,098	33.1	16,858	32.5
Carpenters	16,242	34.3	16,532	35.8
Electricians	21,165	34.2	23,505	37.8
Painters	15,495	31.7	16,808	34.1
Plumbers, pipefitters and steamfitters	20,332	35.5	22,931	38.2
Supervisors, manufacturing production occupations	23,734	40.5	25,295	41.9
Tool and die makers	23,988	35.9	24,265	40.7
Machinists	15,622	35.4	18,614	35.1
All precision production, craft, and repair occupations	20,784	35.7	21,364	38.3
Metalworking and plastic working machine operators	17,863	37.1	19,271	36.0
Welders and cutters	19,535	34.8	18,756	33.6
Assemblers	17,091	33.7	17,791	31.7
Truck drivers and driver-sales workers	19,323	36.3	19,052	37.2
Material-moving equipment operators	19,116	34.4	18,460	36.7
Construction laborers	13,352	33.3	15,729	30.4
Freight, stock, and material handlers	15,354	21.6	15,683	22.1
Nonconstruction laborers	15,574	34.1	16,046	30.3
All operators, fabricators, and laborers	17,259	33.5	18,023	33.6
TOTAL	18,288	33.1	20,345	36.0

SOURCE: Bureau of the Census, **1980 Census of Population, Detailed Population Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-D24, Tables 221 and 222.

a. Median 1979 earnings among men who worked year-round, full-time.
b. Median age of all employed men as of April 1980.

TABLE 4. Median Age and Earnings of Michigan Women Who Worked Year-Round, Full-Time, Total and of Spanish Origin: Census 1980

Occupation groups and selected occupations	Spanish origin		Total	
	Earnings[a]	Median age[b]	Earnings[a]	Median age[b]
Salaried managers, manufacturing	$20,062	25.8	$16,078	39.7
Accountants and auditors	9,786	24.7	14,112	31.6
All executive, administrative, and managerial occupations	11,672	31.7	13,518	36.6
Mechanical engineers	25,462	42.5	21,319	27.5
All engineers	19,413	40.6	20,085	28.2
Physicians	23,522	36.7	23,146	34.3
Registered nurses	16,808	34.5	15,975	35.4
Teachers, librarians, and counselors	14,210	35.3	15,513	36.3
Writers, artists, entertainers, and athletes	12,143	26.7	12,161	31.0
All professional specialty occupations	15,856	33.9	15,683	34.9
All managerial and professional specialty occupations	14,451	33.3	14,982	35.7
Licensed practical nurses	12,233	36.7	12,163	34.6
Engineering and science technicians	12,190	27.8	13,332	27.8
All technicians and related support occupations	13,462	29.0	12,896	30.8

TABLE 4. (Continued)

Occupation groups and selected occupations	Spanish origin		Total	
	Earnings[a]	Median age[b]	Earnings[a]	Median age[b]
Sales representatives, finance and business services	10,550	33.5	12,125	36.7
Sales workers, retail and personal services	9,519	23.8	8,626	29.7
All sales occupations	10,071	25.9	9,619	31.6
Supervisors, administrative support occupations	11,750	43.4	14,161	38.2
Secretaries	10,786	29.0	11,274	33.7
Bookkeepers, accounting, and auditing clerks	11,294	29.5	10,986	37.2
Mail and message distribution occupations	15,329	24.3	15,825	33.8
Traffic, shipping, stock, and inventory clerks	10,700	31.4	11,245	34.3
Bank tellers	8,754	24.0	8,797	28.1
Data-entry keyers	12,551	27.8	11,272	29.5
All administrative support occupations, including clerical	10,679	27.8	11,200	33.1
All technical, sales, and administrative support occupations	10,761	27.6	11,143	32.6
Police and detectives, public service	20,053	29.1	20,211	30.0
Guards	6,500	39.6	10,990	32.5
Waiters and food counter workers	3,886	22.2	6,151	22.9
Cooks	6,744	39.6	7,619	39.8
Nursing aides, orderlies, and attendants	9,039	30.4	8,851	33.6
Cleaning and building service occupations, excluding household	9,814	40.1	9,237	43.3
Barbers, hairdressers, and cosmetologists	13,086	33.2	8.880	32.8
All service occupations	8,598	32.2	8,337	31.9
Supervisors, manufacturing production occupations	21,487	32.8	16,489	39.4
All precision production, craft, and repair occupations	12,628	37.3	12,477	36.2
Metalworking and plastic working machine operators	14,851	36.5	11,977	37.5
Textile sewing machine operators	13,705	40.6	12,522	41.4
Welders and cutters	10,200	35.0	12,849	35.4
Assemblers	15,450	33.4	13,054	35.3
Truck drivers and driver-sales workers	13,267	38.1	12,599	33.0
Material-moving equipment operators	18,424	33.0	13,235	31.8
Freight, stock, and material handlers	12,611	27.5	10,413	28.0
Hand packers and packagers	9,381	38.0	10,716	38.0
Laborers, except construction	12,653	32.7	11,023	32.0
All operators, fabricators, and laborers	12,703	34.4	11,636	36.5
TOTAL	11,163	30.7	11,442	33.7

SOURCE: Bureau of the Census, **1980 Census of Population, Detailed Population Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-D24, Tables 221 and 222.

a. Median 1979 earnings among women who worked year-round, full-time.
b. Median age of all employed women as of April 1980.

with those for all workers in this state, are shown in Tables 3 and 4.

With a few notable exceptions, earnings for male workers of Spanish origin are below average in most occupational categories. The exceptions are physicians, teachers, draftsmen and surveyors, hospital orderlies, barbers, welders, truck drivers, and material-moving equipment operators. In most occupational categories, Spanish-origin men are younger than the average, indicating that longevity alone could account for some of the pay discrepancy. It could also be that Spanish-origin men work at less profitable, less automated establishments in the older sections of cities near where they live.

Among women, the pay gap between Latinos and the rest of the work force is considerably smaller, and the instances where the gap favors those of Spanish origin are greater in number, despite age differences.

In the overall levels of income and poverty among Spanish origin households, the Cubans have enviable records compared with the population as a whole; Puerto Ricans have the lowest incomes and the most poverty by a rather wide margin. Median household income among Mexican-Americans is below average and poverty levels above average.

Group	Median income ($)	Poverty rate %
Mexican-American	18,179	19.0
Puerto Rican	16,830	24.1
Cuban	23,558	8.7
Other Spanish	20,134	16.8
Total Spanish	18,592	18.7
Total Michigan	22,107	10.4

Among major cities, median income among Latino households is above the average for all households in Battle Creek, Bay City, Dearborn Heights, Detroit, Flint, Muskegon, Pontiac, Saginaw, and Wyoming. Poverty among Latinos is below average in Dearborn Heights, Farmington Hills, Livonia, Pontiac, Portage, Royal Oak, Troy, and Wyoming.

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1. Dennis Nodin Valdés, *Puebla Mexicano en Detroit y Michigan: A Social History* (Detroit: Wayne State University, College of Education, 1982), p. 16.
2. Valdés, pp. 67–68.
3. Valdés, pp. 64–65.
4. Valdés, pp. 63–64.
5. Joseph P. Fitzpatrick, *Puerto Rican Americans* (Englewood Cliffs, N.J.: Prentice-Hall, 1971), pp. 20, 21, cited in Bernard Ortiz DeMontellano and Isabel Salas, "Spanish Population in Detroit," *Census Discussion Papers: Metro Detroit in the 80's* (Detroit: Wayne State University, Michigan Metropolitan Information Center, Center for Urban Studies), Number 4, July 1984, p. 3.
6. DeMontellano and Salas, p. 3.

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Update on Michigan's Working Women

by DAVID I. VERWAY, *director, Bureau of Business Research, School of Business Administration, Wayne State University*

In Michigan, as nearly everywhere else in the country, the number of women entering the labor market during the 1970s far exceeded the number of male entrants. According to the most recent Census of Population, over 80 percent of the new jobs that materialized in this state during the decade were staffed by women. Census figures also revealed that well over half of the increase in managerial and professional specialty occupations was won by women, but women also moved into lower-paying occupations that were vacated by men. Moreover, in virtually every occupational classification, average women's earnings stood below those of men, although the gap narrowed somewhat. As a result, although the economic status of women improved, they still lagged behind men by a considerable margin at the end of the decade.

This analysis is based on the decennial Census of Population, basically a count of the population of the United States for the purpose of apportioning seats in the House of Representatives. From a sample of households, the Bureau of the Census also asked a series of questions regarding economic activity, earnings, and education. The bureau also conducts a monthly Current Population Survey among some 60,000 American households. The survey provides important clues about economic developments between decennial censuses.

LABOR FORCE PARTICIPATION

For Michigan the decade of the 1970s was a period of economic drift. Compared with the United States, economic growth here was languid. Job growth occurred at about half the national rate. Employment in durable-goods manufacturing actually declined, eliminating thousands of blue-collar jobs that paid relatively well and required little skill. In 1980 the rate of unemployment among men and women, whites and blacks, people of Spanish origin, and in all age categories was well above the national averages.

Several factors affect labor-force participation. High unemployment discourages labor-force participation because of the poor employment prospects. In addition, labor-force participation among women is influenced by marital status as well as by employment status of the husband. Participation is greater among black women than among white because of the higher rate of family breakup as well as a lower rate of participation among black men. Positive attractions to the labor market include the independence that comes with a paycheck and "psychic income," the pleasure of accomplishment in a job other than that of homemaker as well as diversion from typical household routine.

Economic growth of this state during the 1970s provided Michigan with a net job gain of nearly 500,000. Among the broad occupational categories, the net job gain was greatest (125,000) at the top level, that is, executive, managerial, and administrative occupations. Men and women shared about equally in this net change. The job increment in professional specialty occupations was about 110,000, comprised of 65,000 women and 45,000 men (see Table 1). These exciting new opportunities in management and the professions have been instrumental in drawing women into the labor force. This group includes registered nurses, physicians, other college-trained health professionals, mathematicians, engineers, and scientists.

TABLE 1: Employed Michigan Women and Men, by Occupational Group

	Women			Men		
	1970	1980	Change	1970	1980	Change
	(In thousands)					
Executive	37	100	63	181	244	63
Professional	150	215	65	199	244	45
Technical	27	51	24	51	61	9
Sales	140	180	41	172	179	7
Administrative	374	487	113	135	137	2
Services	247	320	72	163	203	40
Farm	6	11	4	56	52	−4
Precision	31	28	−3	486	465	−21
Operatives	152	177	26	646	597	−50
Total	1,164	1,569	406	2,089	2,181	92

SOURCE: Bureau of the Census, **1980 Census of Population, General Social and Economic Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-C24, Table 61.

More and more women are qualifying for top-level occupations because of their educational credentials. The number of doctorates granted to women doubled

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.3	41.5	43.0 (Mar.)
Average weekly hours, U.S.	40.7	39.7	40.3 (Mar.)
Average hourly earnings, Michigan ($)	12.06	12.97	12.57 (Mar.)
Average hourly earnings, U.S. ($)	9.09	9.42	9.44 (Mar.)
U.S. motor vehicle production (units)	934,928	1,040,590	1,055,930 (Apr.)
Electricity usage (mil. kwh.):			
Michigan	6,383	6,076	6,469 (Jan.)
United States	206,537	186,910	201,365 (Jan.)
Raw steel production:			
Michigan (000 net tons)	732	553	596 (Mar.)
United States (000 net tons)	9,056	6,851	8,269 (Mar.)
Consumer price index (1967 = 100)			
Detroit area	304.1	313.7	315.5 (Mar.)
United States	307.3	317.4	318.8 (Mar.)
U.S. producer price index (1967 = 100)	311.4	308.7	309.3 (Apr.)
Michigan farm prices received index (1977 = 100)	142	121	122 (Apr.)

SOURCE: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Ward's Automotive Reports; American Iron and Steel Institute; and Energy Information Administration.

Nonresidential and Residential Building Awards in Michigan Metropolitan Statistical Areas: 1983 and 1984

(In thousands of dollars)

Area	Nonresidential		Residential		Total	
	1983	1984	1983	1984	1983	1984
Ann Arbor	140,700	130,200	33,300	70,000	174,000	200,200
Battle Creek	9,700	54,600[c]	20,000	24,600	29,700	79,200
Bay City	14,800	5,900	14,400	11,700	29,200	17,600
Detroit[a]	592,500	1,165,000	614,000	892,100	120,690	2,057,600
Flint	36,000	72,600	31,200	60,300	67,200	132,900
Grand Rapids	161,300	219,800	149,500	172,900	310,800	392,700
Jackson	17,500	15,800	17,400	10,400	34,900	26,200
Kalamazoo	43,000	45,300	36,200	40,800	79,200	86,100
Lansing-E. Lansing	83,500	84,500	76,800	102,200	160,300	186,700
Muskegon	9,000	14,100	20,400	25,300	29,400	39,400
Saginaw[b]-Midland	25,700	64,900	45,700	47,900	71,400	112,800
Toledo[a]	127,200	—	89,800	—	217,000	—
Michigan	1,277,600	2,049,200	1,449,000	1,909,500	2,726,600	3,958,700
United States	62,284,200	73,225,700	93,566,600	100,762,600	155,850,800	173,988,300

SOURCE: F. W. Dodge Division of McGraw-Hill Information Systems Company, special release.
a. In 1984, Monroe County transferred from Toledo to Detroit MSA.
b. Midland County was added to Saginaw MSA in 1984.
c. March 1984, $30,000,000 office building in Calhoun County.

during the decade. Master's degrees increased by nearly 50 percent and the number of bachelor's degrees by 18 percent. Among men the number of doctorates awarded declined by nearly a third; the number of master's and bachelor's degrees granted increased by 11 percent and 3 percent respectively.

The net impact of the various forces was an increase of nearly 500,000 in the female labor force. In 1970, 40.2 percent of all women sixteen years old or older were in the labor force. The rate for 1980 was 48.8 percent. Labor-force participation rose for black women (46 percent to 50.3 percent) as well as for white women (39.5 percent to 48.5 percent). It rose for single women, married women, women with young children, and women with children in school. Meanwhile, the rates among men declined: 72.7 percent to 64.2 percent for blacks and 78.2 percent to 76.7 percent for whites.

Researchers at the Women's Bureau of the U.S. Department of Labor made the following comments with regard to similar labor-force participation trends at the national level:

> A number of factors contributed to the increased labor force participation of women during the 1970's. These include the trend toward later marriages and smaller numbers of children in families, and a change in the pattern of spacing children. The dramatic increase in marital disruption accompanied an unprecedented rise in the number of women who have the sole responsibility for the economic support and welfare of their families and the increase in the life expectancy of women. Other major factors are the continued rapid growth of white-collar jobs in which the majority of women are employed, and the increase in part-time and part-year employment opportunities. These factors have been accompanied by a changing attitude toward careers for women outside the home. The most striking change in the labor market activity over the decade was the entry of young married women with children, particularly women of ages 25 to 34 years ("baby boom" population group), into the labor force. This fact underlines, and was the impetus for, the unprecedented growth in the women's segment of the labor force during the 1970's. . . .
>
> In addition to the rise in female single parents with young children, marital disruptions found many older women, who had been homemakers for many years, faced with the prospect of "making a living" in the paid labor market.[1]

THE OCCUPATION GAP

Tables 2 through 5 have been developed to show the occupational and earnings differences between women and men in this state. Secretarial work is more popular among women than any other occupation; 9 percent of the experienced civilian female labor force were so classified in the 1980 census. Among Michigan men factory assembly work is more popular than any other occupation; 4 percent of this experienced civilian labor force were so classified in 1980. Among the twelve most popular occupations for females, none is of a supervisory

TABLE 2: Top Twelve Occupations of the Experienced Female Civilian Labor Force with Earnings in 1979

	Number employed		Median earnings[1]		Percentage who worked year-round, full time[2]		Median earnings among full-time workers[1]		
Occupational classification	Women	Men	Women	Men	Women	Men	Women	Men	Percentage[3]
Secretaries	146,913	1,438	$ 9,093	$11,696	58	61	$11,274	$17,672	158
Waiters and food counter workers	71,165	4,916	2,949	3,439	15	16	6,151	9,496	154
Elementary and prekindergarten teachers	69,542	26,986	14,308	18,912	15	34	15,610	19,324	124
Cashiers—retail trade and personal services	63,581	10,229	4,155	6,003	26	35	9,550	15,296	160
Bookkeepers, accounting and auditing clerks	53,710	5,426	8,881	14,871	58	70	10,986	18,538	169
Assemblers—factories	53,268	97,041	10,757	15,844	44	48	13,054	17,791	136
Nursing aides, orderlies, and attendants	47,770	6,903	5,902	9,424	43	56	8,851	12,442	141
Registered nurses	44,839	1,843	12,707	16,460	49	75	15,975	17,694	111
Cleaning and building service occupations	41,617	82,989	5,307	9,814	37	51	9,237	13,550	147
Cooks—restaurants and institutions	29,404	25,161	3,903	3,204	25	21	7,619	9,308	122
Receptionists	22,243	1,009	6,080	3,168	38	23	9,197	11,708	127
Bank tellers	20,312	1,134	6,932	7,396	50	48	8,797	10,989	125

SOURCE: Bureau of the Census, **1980 Census of Population, Detailed Population Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-D24, Table 222.

1. Earnings in 1979.
2. 1979 experience.
3. Men's median as a percentage of women's median.

nature. Two of the top categories, secretaries and receptionists, represent supportive activities for executives and administrators. Two others, nursing aides and registered nurses, support medical professionals. Assembly work and janitorial work (cleaning and building service occupations) are popular among both men and women. Among men two of the more popular occupations are managerial in nature—factory foremen (supervisors in manufacturing production occupations) and factory middle management (salaried manufacturing managers and administrators).

Women are more concentrated in a few occupations; 41 percent of the experienced civilian labor force worked in the top dozen occupations compared with 30 percent concentration among men in their occupational favorites. Eleven percent of men worked in the top twelve female occupations, and 11 percent of women worked in the top twelve male occupations. Four of these occupations, however, are among the twelve most populous for both sexes—teaching, assembly work in factories, janitorial work, and cooking in restaurants or other institutions. The few occupations that are heavily dominated by women (six or more to one) are in the health service and office service fields, occupations such as registered nurse, practical nurse, secretary, dental hygenist, file clerk, and so forth. Men are making inroads in only a few of these, perhaps due to disdain for "women's work" or to the low pay for these jobs compared with what men can earn elsewhere. Many occupations are heavily dominated by men, and women are making inroads in most of these. A few examples are architects, engineers, doctors, dentists, morticians, clergy, and veterinarians.

In short, women are leaving the home and invading the remunerative workplace at all skill levels. The ranks of the traditional "women's" occupations still tend to be the preserve of women, but the ranks of the traditional "male" occupations no longer tend to be the exclusive preserve of men. Women are moving in to perform many of the brain and brawn activities and at the same time are continuing to do much of the support work for the top-level managers and professionals.

THE PAY GAP

In 1969, 39 percent of the working women worked the full year. The figure among men was 65 percent. By 1979 the proportion of men working year-round had

TABLE 3: Top Twelve Occupations of the Experienced Male Civilian Labor Force with Earnings in 1979

Occupational classification	Number employed		Median earnings[1]		Percentage who worked year-round, full time[2]		Median earnings among full-time workers[1]		
	Men	Women	Men	Women	Men	Women	Men	Women	Percentage[3]
Assemblers—factory	97,041	53,268	$15,844	$10,757	48	44	$17,791	$13,054	136
Truck drivers and driver-sales workers	94,434	3,451	16,359	7,125	61	37	19,052	12,599	151
Cleaning and building service occupations	82,989	41,617	9,814	5,307	51	37	13,550	9,237	147
Metal-working and plastic-working machine operators	81,254	17,560	16,943	9,907	64	48	19,271	11,977	161
Supervisors in manufacturing production occupations	66,392	4,902	25,495	14,975	87	77	26,204	16,489	159
Automobile mechanics, including body	49,638	804	15,102	11,325	67	49	16,858	15,046	112
Freight, stock, and material handlers	46,286	9,268	6,824	5,603	38	34	15,683	10,413	151
Welders and cutters	41,839	4,019	16,175	10,483	56	42	18,756	12,849	146
Commodities sales representatives, except retail trade	40,775	5,744	21,314	9,440	83	52	22,608	12,867	176
Finance and business services sales representatives	39,541	19,642	19,495	8,911	77	51	21,703	12,125	179
Salaried manufacturing managers and administrators	37,954	3,707	32,078	14,583	92	78	32,771	16,078	204
Production inspectors, testers, samplers, and weighers	37,704	19,047	18,393	11,240	66	53	20,226	13,150	154

SOURCE: Bureau of the Census, **1980 Census of Population, Detailed Population Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-D24, Table 222.

1. Earnings in 1979.
2. 1979 experience.
3. Men's median as a percentage of women's median.

slipped to 64 percent, whereas among women the figure had jumped to 47 percent. The actual number of year-round female workers rose by 55 percent compared with a 6.5 percent increase for men. The number of part-year female workers increased by 7 percent compared with a figure of 13 percent for men.

The median age among women who worked declined from a level of 37.9 years in 1970 to 33.7 years in 1980, a rather more pronounced decrease than the 39.3 years to 36.0 years decline among men.

Perhaps another reflection of the greater influx of young women is the relatively slower rate of gain in the proportion with college credentials. In the 1970 census, 10.1 percent reported having four or more years of college compared with 12.3 percent for men. By 1980 the gap had increased: 14.4 percent compared with 19 percent. In terms of raw numbers, however, the number of employed female college graduates grew by 92 percent, whereas the figure for males was 61 percent.

Overall, the earnings gap, like the occupational gap, closed somewhat during the decade. This is true for most occupational categories as well as among women who work year-round, full time. Still, median earnings among men in the 1980 census exceeded those among women (for those working year-round, full time) in all but the category known as forestry and fishing occupations. For most occupations the gap was greater in Michigan than it was in the United States. Generally, Michigan men and women in most occupations have higher earnings than their national counterparts, but the Michigan-United States difference is greater among men than it is among women because in most occupational categories there is a higher concentration of Michigan men in the higher-paying durable-goods industries.

At the national level the earnings gap has not narrowed.

> Available data from all reputable sources show a persistent and relatively consistent disparity in the earnings of women and men, whether measured in terms of weekly or annual wage or salary income or earnings income. This difference reflects, in part, age, education and training, job tenure, seniority, and the amount, type, and location of the work performed. Other acknowledged factors are: a higher proportion of women work in part-time jobs, men's workweek tends to be longer even within the full-time context, a lower proportion of women are members of labor organizations, and there are differences in the distribution of workers within occupational groups and industries, with women concentrated in certain low-paying major occupational groups. The discontinuity in work experience once cited as a reasonable explanation has changed considerably in recent years, but its effect on the earnings gap has not been definitively evaluated. That it leads to lesser seniority accumulation, advancement of skills and general work experience cannot be discounted. Explanatory models, taking combinations of the above factors into account, all leave a large proportion of the gap between women's and men's earnings unexplained. This unexplained difference can be attributed to sex discrimination.[2]

Black women in this state have been particularly successful in moving into the ranks of managers and professionals. The result is that their median earnings among year-round, full-time workers exceed those of white women by a noticeable margin in contrast to the United States as a whole where the reverse is true.

	Females		Males	
Race/ethnic group	Michigan	United States	Michigan	United States
White	$11,297	$10,239	$20,494	$17,631
Black	12,521	9,533	18,158	12,848
Spanish origin	11,163	8,946	18,288	13,013
Native American	10,776	9,344	17,194	14,154
Asian	14,753	11,328	23,361	17,341
Total	11,442	10,134	20,345	17,107

Even so, the fact that many women have been left behind is reflected in poverty statistics which show that about 9 percent of men lived in households below the poverty level compared with 12 percent for women. Among black women the poverty rate was nearly 30 percent. Those earnings and poverty data pertain to the year 1979 when unemployment was relatively low. Pov-

TABLE 4: Six Top-Paying Occupations of the Experienced Female Civilian Labor Force with Earnings in 1979

	Number employed		Median earnings[1]		Percentage who worked year-round, full time[2]		Median earnings among full-time workers[1]		
Occupational classification	Women	Men	Women	Men	Women	Men	Women	Men	Percentage[3]
Physicians	2,303	14,305	$18,509	$52,246	55	72	$23,146	$55,866	241
Mechanical engineers	722	25,819	18,748	30,159	71	89	21,319	30,571	143
Electrical and electronic engineers	451	7,421	18,631	25,375	80	88	20,351	26,208	129
Police and detectives[4]	1,347	15,258	18,499	21,276	72	88	20,211	21,531	107
Pharmacists	1,542	4,489	12,138	22,481	49	77	19,256	24,454	127
Architects	203	2,912	13,846	22,037	57	78	18,774	24,125	129

SOURCE: Bureau of the Census, **1980 Census of Population, Detailed Population Characteristics, Michigan** (Washington, D.C.: 1983), PC80-1-D24, Table 222.

1. Earnings in 1979.
2. 1979 experience.
3. Men's median as a percentage of women's median.
4. Excluding private police, guards, and detectives.

erty is lowest among those in the more productive work years, 25–64. The male-female poverty differential is greatest among those 65 or older, an indication of the inadequacy of incomes during the productive years to provide adequate retirement benefits for widows, divorcees, other single, elderly black and white women, and women of Spanish origin.

TRENDS

Women, particularly blacks, have made considerable progress in moving into the better-paying, more prestigious occupations as well as closing the gap in earnings for similar occupations. As durable-goods manufacturing, which is high paying and favors men, continues to grow more slowly than the rest of the economy, the earnings gap will continue to shrink.

A sense of the opportunities that are becoming available to women can be developed in the age profiles for the various occupations. In the management ranks, 17.3 percent of men were fifty-five years old or older at the time of the 1980 census compared with 13.7 percent for women. In the professional specialties, the figures were 13.6 percent and 10.2 percent respectively. Male retirements from the top-level occupations will exceed female retirements by a sizable margin between 1980 and 1990. With more women than men entering the labor force, the occupational gap among full-time workers will diminish also.

Women who work part-time likely will continue to occupy the lower-level positions because employers prefer full-timers for the higher-level occupations. Those who are satisfied with part-time jobs face rigid work patterns.

> Alternative work patterns—part-time work, flexible work schedules, and shared jobs—are important to many women who have both work and home responsibilities such as child care. These alternatives to the regular workday or job structure also are valued by certain handicapped persons, older workers, and students. As yet the use of alternative work schedules is not wide-spread, although a number of major U.S. firms have adopted or are experimenting with some aspect of these different approaches.[3]

The tendency for more women than men to enter, leave, and reenter the labor market is a major factor in the earnings gap between men and women. According to one study, "differences in work history accounted for 28 percent of the wage gap between white men and white women and about 14 percent of the wage gap between white men and black women."[4] The same study also showed that differences in training and in formal education were important explanatory factors.

A more insidious type of wage gap is unequal pay for work of equal worth.

> Increasingly, allegations are being made that work traditionally performed by women is undervalued and underpaid in comparison with other work—predominantly performed by men—different in content but perceived to require the same or less educational preparation, experience, skill and responsibility.[5]

California has passed a "comparable worth" law. The issue seems certain to occupy concerned groups in other states through the remainder of this decade and into the 1990s.

CITATIONS

1. U.S. Department of Labor, Women's Bureau, *Time of Change: 1983 Handbook on Women Workers* (Washington, D.C.: 1983), Bulletin 298, 5.
2. Women's Bureau, 87.
3. Women's Bureau, 38.
4. The University of Michigan, Institute for Social Research, *Five Thousand American Families—Patterns of Economic Progress*, vol. 6 (Ann Arbor, 1978), 8.
5. Women's Bureau, 87.

TABLE 5: Six Top-Paying Occupations of the Experienced Male Civilian Labor Force with Earnings in 1979

Occupational classification	Number employed		Median earnings[1]		Percentage who worked year-round, full time[2]		Median earnings among full-time workers[1]		
	Men	Women	Men	Women	Men	Women	Men	Women	Percentage[3]
Physicians	14,305	2,303	$52,246	$18,509	72	55	$55,866	$23,146	241
Dentists	5,112	230	45,662	13,871	52	37	48,052	13,632	352
Salaried manufacturing managers and administrators	37,954	3,707	32,078	14,583	92	78	32,771	16,078	204
Lawyers and judges	15,031	2,205	29,904	13,587	81	62	32,597	18,465	177
Mechanical engineers	25,819	722	30,159	18,748	89	71	30,571	21,319	143
Salaried transportation, communication, and public utilities managers and administrators	7,498	1,884	26,200	16,832	91	81	26,748	18,267	146

SOURCE: Bureau of the Census, 1980 Census of Population, Detailed Population Characteristics, Michigan (Washington, D.C.: 1983), PC80-1-D24, Table 222.

1. Earnings in 1979.
2. 1979 experience.
3. Men's median as a percentage of women's median.

Brief

Each month the Bureau of the Census collects information from a sample of about sixty thousand U.S. households. Trained interviewers ask a series of questions regarding employment, and the Bureau of Labor Statistics uses the answers to develop estimates of employment and unemployment for the U.S. and for large states. Each year the monthly figures are averaged to yield various labor-force statistics for large states, metropolitan statistical areas (MSAs), and cities.

Because the sample surveyed is small, particularly for the city of Detroit, the sampling error is relatively large, that is, the figures may not be the same as the ones that would have been derived by asking these questions of every household. Also generally speaking, the relative errors are least for the U.S. figures, slightly higher for large states and MSAs, and largest for the smaller cities for which data are published.

The Detroit MSA consists of Wayne, Oakland, Macomb, St. Clair, Lapeer, and Livingston counties. The data gathered in this area suggest that there has been a serious decline in employment among Detroit city residents since the 1980s and a significant job gain among residents of the remainder of the Detroit MSA. As a matter of fact, employment among residents of the rest of the Detroit MSA is growing at a rate slightly in excess of the national rate, while employment in the state, outside of the MSA has grown somewhat more slowly than the national rate since 1980.

Among white, Detroit men and women, employment, labor-force participation, and unemployment are declining, no doubt reflecting the migration of young adults and the elderly age of those remaining. Employment among black Detroiters appears to be stable, or perhaps increasing slightly. Labor-force participation is stable, but at a rate well below the national average, and unemployment in the city is exceptionally high, about double the national rate for blacks.

Since 1980 the rate of labor-force participation among white men has slipped in Michigan and in the nation. Labor-force participation among black men is stable, both here and nationally. Labor-force participation among black women is stable in Michigan and increasing nationally. Labor-force participation among white women in this state has increased substantially, from a level below that for Michigan black women to one well above it and from a level below white women nationally to one somewhat above it. Overall, participation rates for men still are well above those for women. These data also indicate that there has been a spectacular increase in employment among women living in the Detroit suburbs.

Occupational data indicate that Michigan women have made further inroads in sales occupations, service occupations, and at the executive level. Women have made some gains at the professional level at the same time that the number of male professionals has declined. Women also are gaining precision, craft-type jobs, also a declining category among Michigan men. The ranks of operatives have continued to thin among both men and women in this state. There have been losses among male administrators, a stable category for women.

There have been significant increases in the numbers of Michigan women and men who work part-time because they cannot find full-time jobs. The number of women with full-time and voluntary part-time jobs also has increased, whereas among men both of these categories have declined since 1980.

TABLE 1. Employment and Unemployment in the Detroit area, Michigan, and the U.S., 1980–1984

RACE AND SEX	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
	DETROIT (city)					DETROIT MSA				
Civilian labor force (000)										
White men	n.a.	108	100	89	87	n.a.	991	965	935	937
White women	n.a.	72	81	69	55	n.a.	678	684	697	707
Black men	n.a.	143	154	134	148	n.a.	165	176	168	178
Black women	n.a.	128	124	118	132	n.a.	148	147	155	159
Participation rate (percent)										
White men	n.a.	68.9	66.9	64.0	63.2	n.a.	81.0	79.0	7.76	77.0
White women	n.a.	44.6	47.4	44.8	38.5	n.a.	50.3	52.0	53.0	53.4
Black men	n.a.	65.5	66.8	64.8	65.3	n.a.	66.8	66.7	65.4	66.8
Black women	n.a.	46.0	47.2	47.1	45.9	n.a.	46.8	47.6	49.5	48.5
Civilian employment (000)										
White men	n.a.	92	80	72	78	n.a.	831	840	815	871
White women	n.a.	65	71	60	51	n.a.	536	600	618	648
Black men	n.a.	106	98	93	101	n.a.	115	113	117	127
Black women	n.a.	97	86	83	94	n.a.	108	102	107	116
Unemployment rate (percent)										
White men	n.a.	14.5	19.7	18.4	11.0	n.a.	9.5	12.9	12.8	7.0
White women	n.a.	10.7	12.0	12.8	7.4	n.a.	11.4	12.9	11.3	8.3
Black men	n.a.	26.2	36.1	30.6	31.7	n.a.	26.3	36.0	30.4	28.8
Black women	n.a.	24.0	30.7	29.8	28.4	n.a.	24.9	30.8	31.2	27.4

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TABLE 1. (Continued)

RACE AND SEX	1980	1981	1982	1983	1984	1980	1981	1982	1983	1984
	MICHIGAN					UNITED STATES				
Civilian labor force (000)										
White men	2,246	2,259	2,195	2,170	2,157	54,473	54,895	55,133	55,480	56,062
White women	1,535	1,565	1,589	1,619	1,661	39,127	40,157	41,010	41,541	42,431
Black men	249	231	236	240	262	5,612	5,685	5,804	5,966	6,126
Black women	213	197	203	215	229	5,253	5,401	5,527	5,681	5,907
Participation rate (percent)										
White men	78.1	78.7	77.2	76.9	77.3	78.2	77.9	77.4	77.1	77.1
White women	50.5	51.0	52.2	53.3	54.3	51.2	51.9	52.4	52.7	53.3
Black men	68.8	68.5	66.3	66.4	69.6	70.6	70.0	70.1	70.6	70.8
Black women	51.6	47.3	48.3	50.2	51.0	53.2	53.5	53.7	54.2	55.2
Civilian employment (000)										
White men	1,975	2,021	1,897	1,884	1,968	51,127	51,315	50,287	50,621	52,462
White women	1,385	1,397	1,382	1,443	1,503	36,587	37,394	37,615	38,272	39,659
Black men	187	169	152	168	190	4,798	4,794	4,637	4,753	5,124
Black women	170	144	141	154	169	4,515	4,561	4,552	4,622	4,995
Unemployment rate (percent)										
White men	12.1	10.5	13.6	13.2	8.8	6.1	6.5	8.8	8.8	6.4
White women	9.8	10.7	13.0	10.9	9.5	6.5	6.9	8.3	7.9	6.5
Black men	24.8	26.9	35.6	30.0	27.5	14.5	15.7	20.1	20.3	16.4
Black women	20.2	26.6	30.5	28.5	26.2	12.4	15.6	17.6	18.6	15.4

SOURCE: Bureau of Labor Statistics, **Geographic Profile of Employment and Unemployment,** 1983, (Washington, D.C.: 1984), Bulletin 2216, Tables 1, 12, and 23; similar tables for previous years, special release, and **Employment and Earnings,** January, 1985, p. 157–58.

n.a.: Data not available.

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The Path to Prosperity

The Path to Prosperity is the findings and recommendations of the Task Force for a Long-Term Economic Strategy for Michigan. This task force was created at the request of Ralph Gerson, acting in his capacity as chairman of Governor Blanchard's Cabinet Council on Jobs and Economic Development. Task force members are: Doug Ross, director; Paul Courant, professor of economics and director of the Institute for Public Policy Studies at the University of Michigan; Peter Eckstein, executive director of the Governor's Commission on Jobs and Economic Development; Sandra Gleason, assistant professor of labor and industrial relations at the School of Labor and Industrial Relations at Michigan State University; John Jackson, professor of political science, director of the Program in American Institutions at the University of Michigan, and a research scientist at the University of Michigan's Institute for Social Research; James Kenworthy, staff of the Governor's Cabinet Council on Jobs and Economic Development; David I. Verway, director, Bureau of Business Research, Wayne State University, and editor, *The Michigan Economy;* and John Yinger, visiting professor of economics at the Institute of Public Policy Studies at the University of Michigan.

The outbreak of World War II turned Michigan's great factories into the Arsenal of Democracy, and for the next quarter century Michigan and its people prospered at the forefront of the industrial frontier. Throughout the 1950s and 1960s its auto industry grew, becoming more and more productive and winning Michigan the title of Auto Capital of the World. This productivity enabled the auto industry, along with related industries such as steel, tires, and machinery, to provide hundreds of thousands of Michigan workers with good jobs, high wages, and generous benefits. Michigan was a good place to live for men and women who were willing to work hard to build a prosperous life for themselves and their children.

But as the decade of the 1970s opened, many began to feel that Michigan's great industrial engines were losing their power. Economists warned that the auto industry, which had driven Michigan's economy for decades, was not likely to grow rapidly in the future and that Michigan needed to diversify its economy to provide new jobs for its people. Skyrocketing oil prices and fierce foreign competition battered the U.S. auto industry and reinforced these dire predictions.

Businesspeople, both here and elsewhere in the nation, began to view Michigan as a state in economic distress, with a poor business climate and with a history of severe labor-relations problems. Stories abounded of Michigan businesses moving to other states where conditions were said to be better. The recession of 1979 to 1982 pushed the state's unemployment rate to 17 percent, the highest level since the Great Depression, further weakening Michigan's confidence in the future. In contrast to the booming Sunbelt areas in the South and Southwest, the nation's industrial heartland, with Michigan at its center, came to be called the Rust Bowl, conjuring up images of crumbling factories, decaying cities, and industrial despair.

But while many seemed to agree that Michigan's economy was deteriorating, there was little agreement on the causes. Many blamed the state's apparent fall from prosperity on government, arguing that high taxes, unemployment insurance premiums, and workers' compensation costs had driven plants out of the state. Others blamed the leadership of the auto companies for failing to recognize the increasing demand for small cars or anticipate the oil price hikes. Industry in general was charged with failing to make adequate investments in upgrading factories and equipment or in research and development. Still others pointed at organized labor, charging that rigid work rules and inflated wage demands had made the state's industries uncompetitive. Finally, some of the nation's futurists announced that the United States was evolving a new information and service economy, implying that manufacturing had become outdated as a way of earning a living. Many residents and nonresidents alike came to think of Michigan as an industrial relic with little future to offer their children.

Against this rather bleak background, a group of economists and researchers, drawn primarily from the University of Michigan, Michigan State University, and Wayne State University, undertook a systematic and dis-

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Michigan Economic Indicators

Item	Year previous of latest month	Previous month	Latest month
Manufacturing workers:			
Average weekly hours, Michigan	43.4	43.1	43.0 (June)
Average weekly hours, U.S.	40.8	40.3	40.6 (June)
Average hourly earnings, Michigan ($)	12.18	12.62	12.66 (June)
Average hourly earnings, U.S. ($)	9.15	9.48	9.50 (June)
U.S. motor vehicle production (units)	739,755	993,453	853,735 (July)
Electricity usage (mil. kwh.):			
Michigan	5,723	6,009	5,790 (Apr.)
United States	174,813	184,922	177,345 (Apr.)
Raw steel production:			
Michigan (000 net tons)	658	654	543 (June)
United States (000 net tons)	7,945	7,830	7,292 (June)
Consumer price index (1967 = 100)			
Detroit area	306.3	316.1	317.0 (June)
United States	310.7	321.3	322.3 (June)
U.S. producer price index (1967 = 100)	311.4	309.9	309.5 (June)
Michigan farm prices received index (1977 = 100)	139	117	117 (June)

SOURCE: U.S. Bureau of the Census; U.S. Bureau of Labor Statistics; Michigan Crop Reporting Service; Ward's Automotive Reports; American Iron and Steel Institute; and Energy Information Administration.

Permit Authorized Construction in Selected Counties, First 6 Months 1984 and 1985

(In thousands of dollars)

	1984				1985			
County	Residential	Industrial	Office	Mercantile	Residential	Industrial	Office	Mercantile
Allegan	4,274	10	0	61	1,025	0	0	0
Antrim	4,637	0	0	0	3,209	171	626	17
Berrien	3,630	535	802	357	2,213	0	0	329
Clinton	6,274	0	0	357	4,740	143	71	309
Emmet	2,747	0	0	68	2,616	0	160	0
Genesee	13,445	1,885	2,029	9,128	16,632	8,276	1,482	6,209
Grand Traverse	9,974	1,166	428	932	6,660	735	669	610
Ingham	19,743	547	7,552	2,684	20,742	230	1,224	1,832
Kalamazoo	14,773	1,234	1,129	654	17,596	329	6,921	1,200
Kent	54,284	10,340	2,752	7,814	64,124	23,074	10,048	3,309
Livingston	10,186	3,510	140	398	16,434	3,616	209	1,326
Macomb	61,300	7,273	2,731	7,470	90,154	24,135	5,712	12,934
Midland	10,244	208	3,329	0	3,557	0	975	5
Muskegon	5,764	514	426	1,399	3,300	0	196	1,167
Oakland	163,228	52,720	71,600	11,657	258,917	65,065	126,145	13,112
Ottawa	21,529	10,941	1,019	3,182	30,174	6,363	1,896	1,057
Saginaw	3,532	351	571	357	1,585	63	371	3,048
St. Clair	5,235	568	569	222	7,555	2,041	717	418
Washtenaw	21,121	6,380	4,419	328	37,658	2,437	13,462	3,977
Wayne	73,277	85,392	7,828	12,352	96,872	106,368	22,034	31,268
MICHIGAN	623,169	192,211	111,982	70,588	784,144	249,569	198,617	92,160

SOURCE: Bureau of the Census, special release.

passionate analysis of the state's troubled economy. Starting in November 1983, the group closely examined recent changes in the state's economy, analyzed why these changes occurred, and tried to identify—without preconception or prejudice—what public polices could help revitalize the Michigan economy. This paper is a summary of the findings of the original report, *The Path to Prosperity*.

SURPRISING POWER

Michigan's economy—indeed any state's economy—is affected both by temporary changes, caused by the ups and downs of business cycles, and by more permanent changes in the foundation, or structure, of the state's economy. Durable-goods manufacturing industries are affected by business cycles more severely than other industries. Consequently, because of the dominance in Michigan of durable-goods industries such as autos, appliances, and furniture, the economy is disrupted with each swing of the business-cycle pendulum. But this boom and bust phenomenon tends to mask more fundamental changes in the structure of the economy.

To get a clear picture of these underlying structural changes, compare the economy's performance at similar points in business cycles, such as the peaks in economic activity in 1969 and 1979. In this ten-year period, a decade in which Michigan's industrial base was perceived by residents and nonresidents alike as steadily deteriorating, Michigan's manufacturing industries actually grew at a rate roughly the same as the national average. Manufacturing employment in Michigan, which stood at 1.2 million jobs in 1969, was still running at nearly 1.2 million jobs by 1979, a performance only slightly below the national manufacturing job growth of 4 percent during the same period. Moreover, manufacturing earnings in Michigan, that is, total wages and salaries paid, grew at an inflation-adjusted rate of nearly 15 percent from 1969 to 1979, the same rate as for the nation as a whole.

For the people of Michigan, this strong performance translated into higher incomes—about 6 percent higher than the national average in both 1969 and 1979. In fact, despite declines due to recessions in both 1970 and 1974, per capita income in Michigan remained well above the national average throughout the 1970s.

In short, the widely shared view that Michigan's once proud manufacturing base was crumbling during the 1970s proved false. Michigan remains one of the nation's leading manufacturing centers despite the twin shocks of expensive oil and Japanese competition.

That's the good news.

FORCES OF PERIL

The disturbing news is that most of Michigan's individual manufacturing industries did not grow as fast in Michigan as they did in the nation as a whole. In other words, Michigan's manufacturers were losing market share to their competitors between 1969 and 1979. This loss of competitive position meant that Michigan workers lost $1.266 billion (in constant 1972 dollars) in potential new earnings and 134,000 potential new jobs to workers in other states during the decade. Industries with the biggest losses in the state were motor vehicles and nonelectrical machinery. Earnings in these two industries would have been $425 million and $610 million higher (in 1972 dollars) than they actually were, if they had grown as fast in Michigan as they grew nationally.[1]

But if declining competitiveness was causing most of Michigan's major manufacturing industries to lose some of their share of national production to other states, why did Michigan's overall manufacturing base appear to grow at virtually the same rate as manufacturing nationwide between 1969 and 1979? The answer lies in the mix of industries in Michigan's manufacturing base. History dealt Michigan a good hand. It has a relatively large share of those manufacturing industries—among them motor vehicles, nonelectrical machinery, fabricated metals, rubber, chemicals, and instruments—that were growing faster nationally than the manufacturing sector as a whole between 1969 and 1979.[2]

These two forces—a high growth-industry mix and declining market share—almost exactly offset each other. Michigan's advantageous mix of manufacturing industries meant $1.204 billion more in earnings for its workers (a positive industry mix shift) than if its industrial mix had been the same as for the nation as a whole. However, Michigan's declining competitive position in most of those same industries meant that the state's workers received $1.266 billion less in earnings (a negative competitive shift) than if Michigan had maintained its national share in these manufacturing industries. The net result was that manufacturing earnings in Michigan grew $62 million less during the decade than would have been the case if the state's manufacturing base had grown at the national average.[3] (See Table 1.)

Thus, while the overall performance of Michigan's manufacturing industries during the 1970s was surprisingly strong, the inescapable conclusion is that Michigan's economic base is eroding, and this erosion poses a grave threat to the future.

SUCCESS AMID FAILURE

Focusing exclusively on the overall average performance of Michigan's major industries can obscure the activity at the most microlevel of the state's economy. Indeed, a firm-by-firm analysis of Michigan's manufacturing base conducted for this study reveals enormous volatility *within* each industry.

During the period between 1978 and 1983, the worst recession in fifty years slashed manufacturing employment in the state by nearly 330,000 jobs. This net job decline disguises the fact that, at the same time, 71,000 new manufacturing jobs were being created—51,000 from the expansion of existing firms and another 20,000 from the birth of new firms. Furthermore, the number of new manufacturing firms born in the state exceeded the number that went out of business.[4] This economic energy is even more dramatic when the auto industry is excluded from the analysis. In all other manufacturing industries, nearly 40 percent of continuing firms (that is, those neither born nor closed between 1977 and 1983) actually increased their employment during this period

Table 1. Michigan Compared to the United States Manufacturing Earnings Change, 1969–1979
(Millions of 1972 $)

Sector	% MI growth	% U.S. growth	Actual MI growth	Growth if at U.S. sector rates	Growth if at U.S. manuf. rate	Competitive shift	Industry mix shift	Total shift
Manufacturing	14.9	15.4	1940	3206	2003	−1266	1204	− 62
Nondurable	10.7	10.2	231	307	332	− 76	− 25	−101
Durable goods	15.7	18.4	1710	2900	1671	−1190	1229	39
Food	9.9	7.5	47	36	74	11	− 37	− 26
Apparel	− 1.0	5.1	0	− 1	4	1	− 5	− 4
Fabricated textiles	28.9	− 9.0	57	− 18	30	75	− 48	27
Paper	− 6.2	16.8	− 17	47	43	− 64	4	− 60
Printing	− 2.9	10.9	− 10	36	50	− 45	− 15	− 60
Chemicals	11.2	21.9	61	118	83	− 58	35	− 22
Petroleum	15.3	34.7	5	11	5	− 6	6	0
Tobacco	− 99.4	18.4	− 1	0	0	− 1	0	− 1
Rubber	41.3	36.5	100	88	37	12	51	63
Leather	− 31.6	− 29.3	− 11	− 11	6	− 1	− 16	− 17
Lumber	31.7	47.3	24	36	12	− 12	24	12
Furniture/Fixtures	12.3	3.6	26	8	33	19	− 25	− 6
Primary metals	8.1	15.7	91	177	174	− 86	3	− 82
Fabricated metals	14.9	28.8	206	398	212	− 192	185	− 7
Non-elec. machinery	3.4	33.0	71	681	317	− 610	364	−247
Electrical machinery	37.7	11.0	171	50	70	121	− 20	101
Other transportation equipment	36.3	4.7	47	6	20	41	− 14	27
Motor vehicles	21.6	30.2	1073	1498	763	− 425	736	311
Ordnance	−100.0	−100.0	− 53	− 53	8	0	− 61	− 61
Steel/Clay/Glass	21.6	21.4	45	45	32	0	13	13
Instruments	21.5	49.0	22	51	16	− 28	39	6
Miscellaneous manufacturing	− 16.0	3.0	− 15	3	14	− 18	− 12	− 30

NOTE: The competitive shift is computed in millions of 1972 dollars by subtracting U.S. sector rates from Actual MI growth. The industry mix shift is calculated by subtracting U.S. manufacturing rate from Actual MI growth. Numbers may vary slightly due to rounding.

SOURCE: Shift share analysis based on data from U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System.

by an average of over 50 percent. In business-related service industries, 53 percent of the existing firms grew in size, with employment rising nearly 70 percent in these expanding firms—and there were twice as many new firms as failures.[5]

The state's paperboard industry illustrates this volatility. Examined in the aggregate, this industry suffered a net employment loss of 1,300 jobs during the recent recession. Using a firm-by-firm analysis, however, a more complicated and dynamic picture emerges. Nine Michigan paperboard firms were forced to lay off a total of 900 workers during the recession, and two firms went out of business altogether, causing the loss of another 2,600 jobs. But at the same time, nine other state paperboard firms were hiring 2,200 new employees.[6]

Even in basic steel industries—to many people the symbol of a decaying industrial sector—there was energy and growth. Between mid-1978 and early 1983 the number of steel firms actually increased by 10 percent. Moreover, 25 percent of the steel companies that stayed in business increased their employment. In all, the new firms and the growing firms added 1,300 new jobs, not enough to offset losses in declining steel companies but enough to raise an important question: What are the common characteristics of the expanding steel companies? The answer is instructive. The new or expanding steel companies are substantially different than the declining ones. They are smaller and more efficient. They produce specialty steel customized to buyer specifications. They use the most advanced processing technologies, including reprocessed steel.[7]

Similar instances of success amid failure can be found in virtually every Michigan manufacturing industry. In short, the competitive forces that have eaten away at many of the industries in Michigan's economic base have not prevented growth—even dramatic growth—in many individual firms in those same industries. Any explanation of Michigan's recent economic past and future prospects must account for the fact that, despite the competitive forces that imperil much of Michigan's economic base, some state businesses are able to prosper.

THE SHIFT TO THE SUNBELT

Since 1969 much of the growth in U.S. manufacturing has occurred in the Sunbelt states of the South and Southwest. For example, while manufacturing employment declined nearly 3 percent in Michigan and throughout the Great Lakes industrial belt between 1969 and 1979, manufacturing jobs in the South grew 22 percent. The Northeast also lost manufacturing growth during this period.

After stripping away the promotional rhetoric about sunny skies and warm weather, the principal attraction

of the Sunbelt areas to manufacturing appears to be lower wages. Often, interstate wage differentials can be attributed to differences in each state's industrial mix, with some states containing a larger proportion of industries that nationally pay higher wages. However, even when we eliminate the effects of such differences, a substantial gap remains between average hourly earnings for manufacturing workers in the industrial North and those in the South.

A comparison of the two regions on either extreme fit well the pattern we are describing. The Great Lakes region, with the highest average wages, shows the biggest declines in manufacturing employment, while the South, with the lowest wages, shows the greatest employment gains. The regions in between blur the picture a bit, however. The Northeast shows employment losses despite below-average wages, and the Northwest shows employment gains despite wages that are slightly above average.

The picture is blurred too when we look at individual states within the regions. All of the six Great Lakes states pay manufacturing wages that are above the national average, and four of them—Illinois, Indiana, Ohio, and Michigan—have experienced manufacturing employment losses. These states have been strongly grounded in traditional durable-goods manufacturing. By contrast, the two upper Great Lakes states, Minnesota and Wisconsin, have average wages nearly as high but have experienced a growth in manufacturing jobs. Both states are less heavily based in durable-goods manufacturing, and Minnesota has been moving into new manufactured products. Likewise, while most of the southern states posting job gains pay lower than average manufacturing wages, Texas, with wages roughly equal to the national average, has been growing in large part by developing new products locally.

Rather than simply looking at wages alone, then, we should see the shift of parts of Michigan's traditional industries to the Sunbelt as a natural and predictable part of the product cycle. When a new product becomes successful, the market for it grows. Production gears up for a mass market and becomes more standardized and, thus, more readily imitated. Methods of producing it become more routine and are more readily accomplished with unskilled labor. As the company that originated this product grows and becomes more profitable, wages for local workers may rise, land values may soar, and construction costs may increase. The area eventually becomes a more expensive place for the maturing industry to do business. Sooner or later, production is shifted, whether by the originating firm in the industry or its competitors, to areas that still pay low wages for unskilled labor.[8]

[8] This is not a new phenomenon. The production of transistor radios, for example, began in Indiana in 1954 but quickly spread to other parts of the country. Within a decade Japan became a major competitor, and within another decade production moved on to Hong Kong, Taiwan, Singapore, and other low-wage locations.

COMPETITION FROM ABROAD

A second factor in the failure of Michigan's economic base to expand faster during the past decade is the rapidly growing internationalization of trade. Two decades ago, only a quarter of the goods manufactured in the United States faced any foreign competition.[9] Today, more than 70 percent of all the goods the nation produces compete in international markets, and many of them are not doing well. By 1981, the United States was importing 26 percent of its autos, 25 percent of its steel, 60 percent of its TVs, radios, tape recorders, and phonographs, 27 percent of its metal-forming machinery, and 53 percent of its numerically controlled machine tools. Twenty years before, imports had accounted for less than 10 percent of the U.S. market for each of these products.[10] Some of the heaviest import competition is in automobiles and machine tools, two of Michigan's most important industries.

The same competitive threats to Michigan's routine manufacturing industries that arose in the Sunbelt have emerged abroad. If machinery operated by unskilled workers can be transported to South Carolina to take advantage of lower wages, the same machinery can now be shipped to Mexico to capture still lower wages. Japan, West Germany, and even the Sunbelt itself have joined Michigan and the other Great Lakes states in losing routine manufacturing facilities to Third World nations like Korea, Singapore, and Mexico. Though job-loss figures are not available for Michigan, a recent SRI study reports that foreign competition caused a 4 percent decline in total employment in the Great Lakes region between 1972 and 1983.[11]

FEDERAL FISCAL AND MONETARY POLICIES

Federal fiscal and monetary policy is the third new factor in the marketplace that has damaged Michigan's growth performance in recent years. During the recent recession, the United States adopted a combination of tactics that included tighter monetary policy and large federal budget deficits. To cover these deficits, the federal government increased its borrowing in money markets. This, in combination with the restrictive monetary policies of the Federal Reserve, pushed already high real interest rates to record levels.

The higher interest rates had two disastrous effects on Michigan's manufacturers. First, with money tight and credit costly, American consumers and businesses cut back their purchases of durable, high-ticket items, including the cars, trucks, and appliances that are at the foundation of the state's economy.

Second, higher interest rates brought in a flood of foreign investors seeking to purchase dollars and to invest them in high interest U.S. bank accounts. This new demand for the dollar drove up its value against other world currencies. The higher the value of the dollar, the more expensive U.S. products are relative to foreign products.

The overvaluation of the dollar has been estimated at more than 30 percent.[12] That means, in effect, a tax of more than 30 percent, not just on all exports but on all Michigan products that compete with imports here

in the United States as well. Looked at another way, overvaluation of the dollar acts as a 30 percent "subsidy" for imports that compete with products made here. Just as one example, the change in the value of the dollar against the Japanese yen between 1978 and 1982 added $1,500 to the Japanese advantage on a $10,000 car, wiping out the gains Michigan automakers had expected to make from investments in efficient new equipment during the same period.[13]

The cost in lost jobs and earnings in Michigan has been substantial. Between 1980 and 1983 the dollar appreciated in value nearly 20 percent. Michigan's per capita share of the national loss would have been an estimated 41,000 jobs and $364 million in wages and salaries. But because Michigan produces proportionately more of the products America trades worldwide than most other states, its losses from overvaluation were substantially greater: nearly 48,000 jobs and $580 million in wages and salaries.[14]

STATE-CONTROLLED BUSINESS COSTS

The state has been urged to reduce the levels of state-controlled business costs, such as the Single Business Tax, workers' compensation, and unemployment insurance, as a way of reversing our competitive decline and stimulating the growth of our economic base. Those calling for lower business costs correctly note that some of them are high compared to the rest of the Great Lakes region. Indeed, a recent study found that while Michigan's business and sales taxes and unemployment insurance costs tend to be in line with the regional average, the relatively high costs of workers' compensation and local property taxes push Michigan's government-controlled costs toward the top of the list, second only to Minnesota in this region.[15]

When state-mandated programs, like workers' compensation in Michigan, cost more in one state than in the rest of the region but do not yield proportionately higher benefits, that program's cost should be brought into line with the rest of the region. However, there is no evidence that steps to reduce such costs alone will reverse the decline in Michigan's competitive position or expand the state's economic base. This conclusion rests on several observations:

a. Indiana has the lowest government-controlled business costs in the region. Michigan has the second highest. Yet both states' manufacturing industries have been equally vulnerable to the competitive forces battering the region.

b. Minnesota has the highest state and local business costs in the Great Lakes region, Wisconsin among the lowest.[16] Yet both states experienced impressive manufacturing growth between 1969 and 1979—15 percent in Minnesota and 13 percent in Wisconsin, far above the 4 percent national average. If government-mandated business costs were the crucial factor in manufacturing-employment growth, these two states should have had dramatically different records.

c. A recent national study of the domestic location decisions of large multiplant companies, conducted by the Harvard-MIT Joint Center for Urban Studies, asked manufacturers to identify which location factors they viewed as "musts." State-controlled business costs did not even make the list. The most frequently listed state-controlled item was ease in obtaining environmental permits, and it ranked no higher than seventh. Labor and market factors, along with quality of life, were the most cited decision factors.[17]

d. A 1978 survey of Michigan business executives who make plant location and expansion decisions yielded similar results. State taxes on business, unemployment compensation costs, and workers' compensation costs were not among the ten most important factors. Local property taxes were the only government-controlled costs that consistently ranked near the top.[18]

FINANCIAL INCENTIVES

Many people feel that bigger tax breaks and other financial incentives would persuade new manufacturing firms to relocate in Michigan and stem the perceived flow of manufacturers out of the state. Again, however, there is little evidence that this quick and popular approach will work.

The Harvard-MIT survey found that nationwide fewer than 15 percent of all new plants received tax abatements or tax concessions of any sort. Instead, direct government services—road, sewer and other infrastructure assistance, labor training, and help with environmental permits—were used twice as frequently as financial aid.[19] Similarly, in a survey of Michigan business executives, tax incentives ranked only sixteenth on a list of the twenty-three most important factors influencing plant location decisions.[20]

Finally, for more than a decade Michigan has offered substantial property tax incentives to firms building new plants or renovating old ones. These incentives are quite competitive in size and availability with those offered by other states. Unfortunately, these incentives have been provided not only to firms in the economic base but also to banks, shopping malls, hotels, and restaurants. Though an important part of the state's economy, such firms primarily compete with other Michigan firms for a given number of local consumer dollars and thus do not create net new jobs or income. In those cases in which financial incentives have been directed to economic-base firms that are a source of growth, there has been no way to determine whether a firm would have located its plant in Michigan even without tax incentives.

TRADE PROTECTION

Federal trade protection in the form of quotas or content restrictions on the import of foreign-made autos and parts has been cited as a potential solution to Michigan's competitive decline. This study did not assess such measures since they are federal rather than state actions. But whatever the virtues or liabilities of such policies, they are not powerful enough to reverse Michigan's competitive decline or to expand our economic base substantially. Two-thirds of the 19.2 percent decline in U.S. auto-industry employment between 1973 and 1980 was caused by factors that would have been affected by trade protection policies, such as the relative rise in the price of U.S. autos and the increase in

gasoline prices. Only one-third can be attributed to foreign competition. During the subsequent 1980–82 recession, of the additional 10.6 percent drop in auto employment, more than 90 percent was the result of the decline in domestic demand for autos. Less than 10 percent was due to import competition.[21] These numbers, particularly for 1973–80, are not trivial, and they support our view that foreign competition and the overvalued dollar have been an important part of Michigan's economic misery.

GET SMART

For most of this century, Michigan's economic prosperity rested on the competitive advantage of the standardized mass production processes we used to assemble our autos and cast our steel. By combining our largely unskilled and semiskilled work force with substantial amounts of capital and technology, we made our workers the most productive, and, hence, among the best paid industrial labor force in the world.

Today, the facilities and technology employed by unskilled labor in high-volume standardized production can be purchased by manufacturers everywhere. As a result, the products of such mass production processes, whether initially manufactured in Michigan, Ohio, California, or Japan, are moving to areas that pay lower wages to unskilled workers.

To remain a state that offers its people good-paying jobs in the face of low-wage competition from the Sunbelt and the Third World, Michigan must shift its economic base toward products and processes that depend on the one part of the production system that cannot readily be transferred to competing regions: human skills. These skills include those of production workers, managers, technologists, and researchers. Production processes that rely on human skills must remain where the skilled people are.

In contrast to routine manufacturing, more skill-intensive processes for making things are usually more complex. In general, these complex manufacturing processes are:

- **more automated,** using the latest techniques in the production of individual parts and in the coordination of the production process, with more of both robotized production and computerized controls.
- **more precise,** with new techniques for achieving greater precision in manufacture and higher quality in performance, with high quality increasingly being built in to the product rather than poor quality being inspected out at the end of the production run.
- **more flexible,** with a greater ability to shift production from one product to another, whether in response to a changing market demand to meet customer specifications or to a constant market demand for a wider, more customized range of products.
- **more integrated,** with product design, production layout, manufacture, and marketing coordinated through both early planning and continuous interaction among those involved at every stage.
- **more customized,** in materials, with metals, plastics, and ceramic or composite materials especially designed to meet particular product or production needs, and with production methods more closely adapted to the special characteristics of the materials.

In short, getting smart for Michigan means shifting from making familiar products with routine, standardized processes that can be replicated easily in low-wage states and nations to making new products and existing products with more complex, flexible processes that are protected from such competition by their dependence on human skills. Only in this way can Michigan's economy get competitive without getting poor.

The question then, is in what fields do we want to get smart?

INDUSTRIAL INNOVATION: KEY TO THE FUTURE

If Michigan is to meet the demands of a rapidly changing competitive environment, the industries in its economic base must become more technology intensive.

Michigan already has a growing number of new technology-based firms involved in the design and production of equipment and materials for the factory of the future. These firms will themselves be a source of new jobs and earnings in the Michigan economy. They will also be central to the retooling of Michigan's existing basic industries.

Becoming more technology intensive does not mean the state must imitate Silicon Valley in the production of computer chips. As Michigan emerges as a center of complex manufacturing, "new technology" will not be a separate industrial sector; rather, it will be at the heart of the products and processes of every industrial sector.

To develop and to support these new technologies the state will also have to develop new labor skills, new labor-management relations, and new managerial styles. New labor skills will be required both because workers must help design, integrate, coordinate, and repair the new machines, but also because, with the new, more flexible production processes, workers will need to be able to perform several different tasks and to work together to solve constantly changing problems. New labor-management relations will be required because the new complex manufacturing processes cannot work in the traditional style of total direction from above and quiet resentment from below. Michigan's return to the manufacturing frontier will require a system based on mutual trust and shared responsibility and initiative. New managerial styles must entail more cooperative relationships within management itself. The creativity required for innovative, complex manufacturing cannot be generated and sustained under management styles that are authoritarian and bureaucratic, stifled by mazes of regulations and procedures. Entrepreneurial behavior within the firm must be encouraged and rewarded, and there must be a greater sensitivity to and investment in technological improvements.

In all these areas there are Michigan companies that are making the transition. The auto industry is taking the lead in many areas, including computer-assisted design, the application of robotics, just-in-time inventory, sophisticated controls of quality, and innovative labor-management relations. Many new companies have been

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formed to explore exciting industrial technologies, such as machine vision and computer-aided engineering. The strength of Michigan's universities in engineering and other applied sciences has begun to be a key component of the state's evolving economy of complex manufacturing.

Individual examples, however outstanding, are not to be rested upon but to be built upon. There is no guarantee that Michigan's industrial base will make the full transition in time, no invisible hand guiding us inevitably to a more prosperous future. Furthermore, getting smart does not mean learning all there is to know about this year's state-of-the-art technology and applying it. Rather, it means creating a culture of innovation—institutions and people interacting to create a continuous supply of fresh ideas.

The basic changes that are required for us to win the race for competitive industrial superiority must take place within the private companies in our economic base. At the same time the entire community has a large stake in the outcome.

If Michigan is to return to the forefront of the industrial frontier and stay there in a fast-changing world, it must have an environment in which industrial innovation is its principal economic advantage.

Michigan's past is prologue to its industrial future. We need not abandon our older industries; they are the gateways through which new products and processes emerge. As one economist put it:

> It is far easier to move into flexible-system production by upgrading manufacturing skills and know-how and by elaborating networks of suppliers, distributors, and customers already in existence than by leaping into a totally uncharted sea of products and processes unrelated to an industrial base of the past. Rather than abandoning these older industries, America's industrialized competitors are seeking to restructure them toward higher valued and technologically more sophisticated businesses—like specialty steel, special chemicals, synthetic fibers, and precision-engineered automobiles and auto components.[22]

Notes

1. Janet Wolfe and John Yinger, "Shift-share Analysis" (unpublished), Institute for Social Research, University of Michigan, Ann Arbor, 1984, 3; based on data from U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Analysis, Regional Economic Information System, 1958-1982 detailed components of personal income and employment, revised, 1983.
2. Ibid., 4.
3. Ibid., 4.
4. Judy Connor, Muriel Converse, Steve Heeringa, and John Jackson, "Economic Lessons from Longitudinal Data on Michigan Firms" (unpublished), Institute for Social Research, University of Michigan, Ann Arbor, 1984, 7. The study was based on data from the Michigan Employment Security Commission ES 202 files, collected as part of the unemployment insurance program.
5. Ibid., 9.
6. Ibid., 11.
7. David Verway, "Steel Industry Update," *The Michigan Economy* (January 1984): 7-8.
8. John E. Tilton, *International Diffusion of Technology: The Case of Semiconductors* (Washington, D.C.: Brookings Institute, 1971), 156-57.
9. Ira C. Magaziner and Robert B. Reich, *Minding America's Business: The Decline and Rise of the American Economy* (New York: Harcourt Brace Jovanovich, 1982), 32.
10. Robert B. Reich, *The Next American Frontier* (New York: Times Books, 1981), 121.
11. SRI International, *Choosing a Future: Steps to Revitalize the MidAmerican Economy over the Next Decade* (Menlo Park, California: SRI International, March 1984), 17.
12. Council of Economic Advisors, *Annual Report* (Washington, D.C.: U.S. Government Printing Office, 1984), 53.
13. Ibid., 331.
14. Calculations by Paul Courant based on model of international trade flows developed by Allan Deardorff and Robert Stern, University of Michigan.
15. Timothy E. Hunt, *Michigan's Business Tax Costs Relative to the Other Great Lakes States* (Kalamazoo, Michigan: W. E. Upjohn Institute for Employment Research, February 1985), 9.
16. Ibid., 11.
17. Roger Schmenner, "Location Decisions of Large Firms: Implications for Public Policy," *Commentary* (January 1981): 33.
18. Patricia L. Braden and Susan R. Rideout, "Location Decision-Making in Export-Oriented Business and Industry" (Ann Arbor: Division of Research, Graduate School of Business Administration, University of Michigan, 1978), III-13.
19. Schmenner, "Location Decisions," 6.
20. Braden and Rideout, "Location Decision-Making," III-13.
21. Robert Z. Lawrence, *Can America Compete?* (Washington, D.C.: U.S. Government Printing Office, 1984), 60.
22. Reich, *American Frontier*, 130.